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MONTANA WATER POLLUTION CONTROL PROGRAM PLAN

FOR

FEDERAL FISCAL YEAR 1978

(Oct. 1, 1977 through Sept. 30, 1978)

Prepared by

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ENVIRONMENTAL SCIENCES DIVISION
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INTRODUCTION

The state's goals with regard to water pollution are set forth in Section 69-4801, R.C.M. 1947 of the state's water pollution control act, which states in part:

(1) It is the public policy of this state to:

(a) conserve water by protecting, maintaining, and improving the quality and potability of water for public water supplies, wildlife, fish and aquatic life, agriculture, industry, recreation, and other beneficial uses;

(b) provide a comprehensive program for the prevention, abatement, and control of water pollution.

The Montana water pollution control program is in response to two laws--Section 69-4801 through 69-4827 of the 1947 Revised Codes of Montana and P.L. 92-500 (Federal Water Pollution Control Act Amendments of 1972). In the past, Montana's program has focused mainly at control of point sources (i.e. discharges from municipalities and industries), whereas in the future years, control of nonpoint sources (e.g. such as surface runoff from land carrying high sediment loads) will become a major focal point. A major effort on nonpoint source pollution control began in 1975 through federal funding of four areawide planning organizations to carry out local water pollution control management planning. Similar planning for the remainder of the state not included in the local planning areas began in 1977. The major responsibility for this statewide water pollution control management planning has been delegated to the Water Quality Bureau.

Both the state and federal laws impose a heavy workload on the bureau and the Environmental Protection Agency (EPA) personnel; and for this reason, priorities for programs must be established, recognizing that everything cannot be done at once. The bureau and Region VIII EPA, through coordination of their individual program planning, have attempted to reduce duplication of effort to a minimum.

There is the need to review and revise laws and regulations to reduce paperwork and still accomplish the goals of the Montana act and P.L. 92-500. Montana's program is, to a large part, dictated by P.L. 92-500. The program plan is an outline of the bureau's responsibilities, past program, five year strategy, and proposed program for fiscal year 1978 beginning October 1, 1977 (federal fiscal year).

A partial purpose of the program plan is to meet EPA's requirement for submittal to substantiate the use of federal funds. The major purpose is to provide information to the people of Montana interested in water pollution control and the state's activities in this field. A major portion of the bureau's funding is obtained through EPA grants.

MONTANA WATER QUALITY PROBLEMS

The estimated miles of Montana's streams degraded in each basin are shown in Table 1. The basins are shown in Figure 1. Of the estimated 4,000 miles of streams degraded, only 200 miles are degraded by point source discharges (municipal and industrial dischargers). All of these 200 miles will be corrected by construction measures which have already begun. Thus, 3,800 miles of Montana streams are being degraded by nonpoint sources. Streams not listed in Table 1 are assumed to meet Montana water quality standards. Total mileage of Montana streams is not known.

Montana legislation defines natural as *conditions or material present from runoff or percolation over which man has no control or from developed land where all reasonable land, soil and water conservation practices have been applied. Conditions resulting from dams at the effective date of this act are "natural".* The definition of natural requires that we have a definition of reasonable land, soil and water conservation measures before we can determine if pollution is occurring. This definition also requires that sufficient manpower is available to determine if, in fact, these practices are being employed. A sediment control project has been developed which may help answer these questions and help restore the 2,500 miles of streams degraded by sediment.

Much of the sediment in the Clark Fork of the Yellowstone and Muddy Creek, a tributary of the Sun River, is known to result from agricultural practices. Even in these two cases, it is not known how much results from unreasonable conservation practices. Many other streams also suffer from excessive sediment, and even less is known of the status of conservation measures in these cases. The same considerations apply to problems arising from temperature increases, dewatering, salt increases, as well as nutrient concentrations.

About 190 miles of Montana's streams are degraded by mining waste. Of these, 80 miles are below Butte and result from a deposition of mining and milling wastes in and adjacent to the stream channel. Input of wastes has substantially stopped, but many years will be required for the streams to completely recover.

Industrial waste dischargers, for the most part, will need minor improvements to meet best practicable treatment requirements established by the water pollution control act, and no great problem in meeting these requirements is foreseen. Only 30 miles of Montana streams are being degraded by industrial wastes.

Municipal discharges only impact about 200 miles of streams. The majority of these will be corrected when present construction is completed. There are many other municipal dischargers which do not meet the provisions of the act, particularly the provision for chlorination. However, in view of the minimal impact of coliforms and the unknown but potentially large effects on the aquatic ecosystems and human health, the requirement for chlorination of all municipal discharges is being more closely examined.

Supersaturation of dissolved gases has greatly reduced fish populations in the Kootenai River below Libby Dam. The gases are entrapped in the waters of the overflow of the dam. Similiar problems exist on the dams from the lower Clark Fork River. However, by definition, these are natural conditions. The benefits of improved water quality which could result from control measure should be weighed against costs of correction. Changes in legislation may be desirable.

As discharge requirements to surface waters become more strict, the potential for pollution of underground waters and air increases. Ways must be found to insure that we do not transfer our surface water pollution to our underground waters or to our air.

Possibly the greatest potential for groundwater damage in Montana is due to saline seep. There is also a substantial potential for surface water pollution from saline seep.

The state's greatest challenge is to prevent degradation of waters which exceed the water quality standards. Degradation can occur from addition of pollutants, or by dewatering.

TABLE 1. SUMMARY OF DEGRADED MONTANA STREAMS BY BASIN AND CAUSES (IN MILES)

	SEDIMENT	TEMPERATURE	DEWATERING	SALTS	NUTRIENTS	COLIFORMS	LOW DISSOLVED OXYGEN	ACID MINE WATER AND TOXIC METALS	OIL & GREASE, PHENOLS, COLOR	ARSENIC AND FLUORIDE FROM YNP	MISCELLANEOUS	TOTAL MILES DEGRADED IN THE BASIN	TOTAL MILES DEGRADED IN THE BASIN BY POINT SOURCE
UPPER MISSOURI	450	128*	128*		30	1/40*		20		126		735	31
MISSOURI-SUN-SMITH	160	20*	60*		12*	2/50		50				310	50
MARIAS	216*	186*	261*	125*		9			7		6 (NH_3 from sewage)	440	22
MIDDLE MISSOURI	180*			195*	60*	11*						240	0
MILK	290					3/170	24					290	20
LOWER MISSOURI				250*		70*						250	0
MUSSELSHELL	300*	300*	300*	300*	300*	4/3*						300	3
UPPER YELLOWSTONE	80					25*		35	25*	60		200	?
MIDDLE YELLOWSTONE	315			255								315	0
LOWER YELLOWSTONE	275*			275*								275*	0
LITTLE MISSOURI						?						?	?

TABLE 1. (continued)

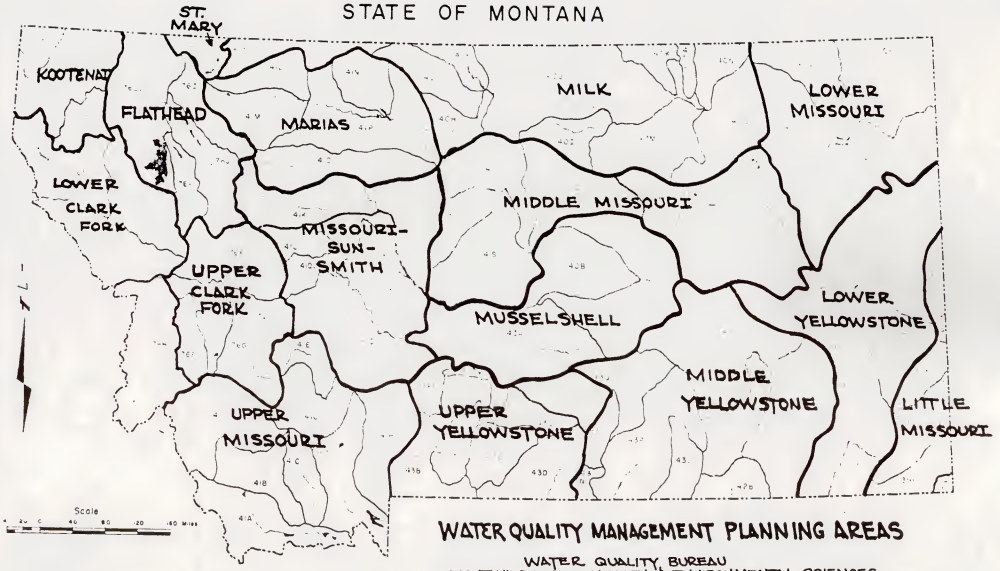
	SEDIMENT	TEMPERATURE	DEWATERING	SALTS	NUTRIENTS	COLIFORMS	LOW DISSOLVED OXYGEN	ACID MINE WATER AND TOXIC METALS	OIL & GREASE, PHENOLS, COLOR	ARSENIC AND FLUORIDE FROM YNP	MISCELLANEOUS	TOTAL MILES DEGRADED IN THE BASIN	TOTAL MILES DEGRADED IN THE BASIN BY POINT SOURCES
UPPER CLARK FORK	75*		110*		60*		80	84*				360	0
LOWER CLARK FORK	104*					20*					2 (N_2 from dams)	120	43
FLATHEAD	55				30*	5/20					5 *flow & T^{o} fluct. from dams)	100	20
KOOTENAI ST. MARY'S	12*										50 (N_2 from Libby Dam)	60	0
TOTAL	2512	630	860	1400	520	418	100	190	30	185	60	3995	189

* indicates overlap of degradation causes
? status unknown

1/ Construction has started which should correct 15 miles.
2/ Construction has started which should correct 76 miles.
3/ Construction has started which should correct 80 miles.
4/ Construction has started which should correct 3 miles.
5/ Construction has started which should correct 20 miles.

194 miles.

FIGURE 1


STATE OF MONTANA
ST. MARY
KOOTENAI
FLATHEAD
MARIAS
MILK
LOWER MISSOURI
LOWER CLARK FORK
MIDDLE MISSOURI
MISSOURI-SUN-SMITH
UPPER CLARK FORK
MUSSELSHELL
LOWER YELLOWSTONE
MIDDLE YELLOWSTONE
LITTLE MISSOURI
UPPER MISSOURI
UPPER YELLOWSTONE
Scale
WATER QUALITY MANAGEMENT PLANNING AREAS
WATER QUALITY BUREAU
MONTANA DEPT. OF HEALTH & ENVIRONMENTAL SCIENCES

WATER QUALITY STANDARDS

1. State Legislation

Section 69-4808.2, R.C.M. 1947 outlines the duties of the Board of Health and Environmental Sciences with respect to Montana's water pollution control laws. The first portion of subsection (1) of Section 69-4808.2 states:

The board shall:

(a) Establish and modify the classifications of all water in accordance with their present and future most beneficial uses.

(b) Formulate standards of water purity and classification of water according to its most beneficial uses, giving consideration to the economics of waste treatment and prevention.

(c) Review from time to time, at intervals of not more than three (3) years, established classifications of water and standards of water purity and classification as follows:

(i) in revising classifications or standards or in adopting new classifications or standards, the board may not so formulate standards of water purity or classify any state waters as to lower any water quality standard applicable to state water below the level applicable under the classification or standards adopted except upon a finding that a particular state water has been classified under a standard or classification of water quality that is higher than the actual water quality that existed at the time of classification and only if the action is taken pursuant to 69-4814.

(ii) The board shall require that any state waters, whose existing quality is higher than the established water quality standards, be maintained at that high quality unless it has been

affirmatively demonstrated to the board that a change is justifiable as a result of necessary economic or social development and will not preclude present and anticipated use of these waters; and

(iii) The board shall require any industrial, public, or private project or development, which would constitute a new source of pollution or an increased source of pollution to high quality waters, referred to in subsection (1)(c)(ii), to provide the degree of waste treatment necessary to maintain that existing high water quality.

2. Review of Past Program

MAC 16-2.14(10)-S14480 WATER QUALITY STANDARDS is an administrative rule adopted by the Board of Health and Environmental Sciences which contains water-use classifications for all of Montana's surface waters and the water-use descriptions and water quality criteria for each classification. The water quality criteria contained in the standards define the minimum water quality conditions and waste treatment requirements needed in order to protect, maintain, and improve the quality and potability of the state's surface water. The water-use descriptions and water quality criteria for nearly all of Montana's rivers and streams provide protection of the quality of the surface water for public water supplies, wildlife, fish and aquatic life, agriculture, industry, recreation, and other beneficial uses.

The first water quality criteria and stream-use classifications were adopted following the enactment of Montana's first comprehensive water pollution control law in 1955. The original water quality standards were reviewed and revised in 1967 in accordance with requirements established by the Federal Water Quality Act of 1965. An anti-degradation clause was added to the water quality standards during this revision, and this anti-degradation policy was subsequently included as part of the state law by the 1971 legislature. The Federal Water Pollution Control Act Amendments of 1972 also requires states and the Environmental Protection Agency to extensively review water quality standards and make necessary changes. The changes required in Montana's water quality standards were adopted by the Board of Health and Environmental Sciences on July 13, 1973, and became effective on November 4, 1973. After the 1973 standards were in use for a short time, several errors were detected which

needed to be corrected. These corrections were made by the Board of Health and Environmental Sciences in July, 1974, following a public hearing, and the revised water quality standards became effective in September of 1974.

During the past year the regulations have been reviewed by the bureau and designated 208 agencies and revisions have been drafted. A change in the state law which permits lowering of stream classifications where streams were originally wrongly classified was enacted by the 1977 legislature. This will assist the bureau in properly classifying streams.

Although "state waters" defined in the water pollution control law applies to both surface and underground waters, regulations have never been established or adopted for groundwater standards. Primary emphasis in the past has been placed on surface waters with investigations of groundwater pollution limited to areas of known concern. During fiscal year 1976 a grant was received from EPA specifically for developing groundwater standards, and work immediately got underway to develop proposed groundwater regulations. Development of groundwater regulations is a more complex issue than that encountered with surface water regulations, and therefore will require far more time, study and development. Proposed regulations are presently in rough draft form.

3. Five Year Strategy

It is the intent of the Water Quality Bureau to review on a continuing basis the water quality standards; to have them reviewed at least every three years by the Water Pollution Control Advisory Council; and to submit revisions to the Board of Health and Environmental Sciences where the need for changes is shown.

The state's "anti-degradation statement" which is part of its water pollution control act needs to be further defined in a formal policy adopted by the Board of Health and Environmental Sciences. This will provide further guidance to the bureau and others who become involved with interpretation of the statement. The bureau has undertaken the task of developing a recommended anti-degradation policy for review by the Advisory Council and consideration for adoption by the Board. If adopted, the policy would be periodically reviewed by the bureau to determine its acceptability and effectiveness.

Groundwater standards will be developed, reviewed by the Advisory Council, and presented to the Board for their

review and adoption. The proposed standards may also incorporate the Federal "Safe Drinking Water Act of 1973" underground injection control requirements so the state can administer both the state and federal standards. The standards after adoption will be periodically reviewed and assessed for needed changes by the bureau and submitted to the Advisory Council for their review and suggested changes at least every three years. When changes are needed, these recommendations will be submitted to the Board for their review and proposed adoption.

4. Proposed Fiscal Year 1978 Program

The following schedules are proposed:

(a) Surface Water Standards and Anti-degradation Policy

Notice of public hearing - August, 1977

Public hearing - September, 1977

Official adoption of revisions - September, 1977

(b) Underground Water Standards

As soon as the "Federal Underground Injection Regulations" are promulgated, the state will decide whether to apply for administration of the federal requirements. Following this decision, the necessary legal procedures will be followed for the adoption of state standards.

MUNICIPAL CONSTRUCTION GRANT PROGRAM

1. Past Program

With passage of the Water Pollution Control Act Amendments of 1972, it became mandatory for all municipal wastewater discharges to receive a minimum of secondary treatment. Montana's Water Quality Standards previously required secondary treatment; however, no limits were established to define secondary treatment.

To assist communities in achieving the goal of meeting secondary treatment requirements, the federal act appropriated $18 billion for the construction grant program. Of the total, Montana received $3,324,000 in fiscal year 1973, $4,986,000 in fiscal year 1974, $7,534,600 in fiscal year 1975 and $12,378,200 in fiscal year 1976.

The carry-over of the fiscal year 1976 funds supplied the majority of the fiscal year 1977 funds. At the end of fiscal year 1976, June 30, 1976, $9,383,320 remained in the Fiscal Year 1976 contract authority. During the transition quarter, an additional $140,512 were expended of the FY 1976 funds. This left a balance of $9,242,808 at the beginning of the 1977 fiscal year, October 1, 1976.

In addition to the FY 1976 carry-over funds, there were two other sources of monies appropriated to the construction grants program during FY 1977. One source of these monies was the Public Works Act, P.L. 94-447, which appropriated $3,024,000 in additional funds. Congress also appropriated a supplemental FY 1977 appropriation of $1 billion which gave Montana an additional $3,272,000.

Construction grant funding is made available to communities needing new or improved treatment facilities, sewage collection systems, interceptor sewers, and for correction of infiltration/inflow problems. Since the needs in Montana outweigh the available funds, a priority system for fund allocation is utilized. Montana's priority system considers sewage treatment to be of the highest priority

except in cases where there is an extreme public health hazard.

Using this priority system, a priority list containing all projects voicing a need is developed at least annually. Grant monies are then obligated to the top communities on the list until the annual allocation is expended.

For projects using fiscal year 1975 and later funds, the grant process is divided into three steps. Step 1, called facilities planning or Section 201 planning, is a detailed planning effort aimed at providing a recommended solution to the particular problems of the community in question. Included in this plan is an analysis of the existing sewer system and treatment facility, a probe of the town's anticipated development and growth trends, a comparison of the economics and effectiveness of all available treatment alternatives, and an environmental assessment of the solutions. Finally, by compiling all of the above information and comparing advantages and disadvantages, a recommended solution is given. If the plan receives the approval of the reviewing governmental agencies, the grant may be amended to provide for Step 2 expenses.

Step 2 concerns itself with the actual design or preparation of plans and specifications of the selected treatment system. Following governmental review and approval of the plans and specifications, the grant may be amended again to provide for Step 3 expenses. The majority of the project costs are associated with this step - construction. Eligible costs in all three steps are funded 75 percent by the Environmental Protection Agency.

Public participation is encouraged throughout the grant process. Public hearings are held before each priority list revision enabling those with suggested changes to be heard. Hearings and meetings throughout the facilities planning stage insure that the public interest is being served. Ultimately, the citizens affected will decide whether or not to support the entire project with their tax dollars.

The Water Quality Bureau is involved with the communities and project consulting engineers throughout the life of these projects. Each year's priority list and estimated cost requirements are determined by this office. After selecting the communities to receive grant assistance, bureau personnel meet directly with town councils and their consultants to explain the program and the application procedure. The bureau is actively involved through the

Step 1 phase, offering assistance when possible and reviewing and approving the final plan prior to its adoption.

Since the development of the construction grants program, the bureau has accepted increasing amounts of responsibility and authority. Our present agreement with EPA grants the bureau the responsibility to certify the completeness and adequacy of numerous documents in lieu of EPA review. These documents include: 1) facility plans excluding the review of the environmental review required under the NEPA of 1969, 2) plans and specifications, 3) change orders and addenda except if the scope of the project changes, affecting the NEPA requirements, and 4) operation and maintenance manuals. In addition, our duties include monitoring cash flow to projects, making construction inspections, and working with the communities and consulting engineers to expedite the construction grant process.

2. Five Year Strategy

Attainment of long range goals for the construction grant program is dependent upon available manpower, congressional funding allocations, changes in municipal treatment requirements, and other factors having profound effects on the program.

It is the bureau's goal to see that federal funding at the 75 percent level is provided and that construction is completed as expeditiously as is possible on all of the state's municipal discharges that presently need upgrading. Furthermore, it is hoped that funding can be provided for a portion of the communities needing new or improved sewerage systems.

Another goal of the bureau is to provide an effective operation and maintenance assistance program. With this tool, the millions of dollars invested in sewage treatment plants will not be wasted. The combined effect of these goals will assist in achieving the ultimate objective of the bureau - maintenance of high quality water in the state.

The construction grant program may be enhanced by passage of the Cleveland-Wright Amendment to P.L. 92-500 presently being considered by Congress. This would give the states greater administrative authority in the construction grants program and allow the states to utilize a small percentage of the construction grant funds for administration of the

program. This would enable the state to devote more manpower to the program and eliminate major duplication with EPA that presently exists while providing more effective utilization of total manpower resources and expedite the processing and construction of projects.

3. Proposed Fiscal Year 1978 Program

The Montana priority system for fiscal year 1978 for EPA construction grants is attached as Appendix A. The priority list of all communities voicing needs is shown as Appendix B. The bureau has established the following goals for the construction grant program:

(1) Obligate all remaining fiscal year 1977 and Public Works funds during the year,
(2) Establish greater communication with the communities, consultants and EPA throughout the project in an attempt to promote more efficient project progression,
(3) Strive for more public input on individual projects,
(4) Perform operation and maintenance visits to assist with operational problems,
(5) Establish more effective program management practices, and
(6) Coordinate with Section 208 Areawide Planning.

At the present time, it appears that Congress will appropriate $4.5 billion for fiscal year 1978. Using the state allotment formula, Montana will receive $14,850,000. It also appears that Congress may provide a 10 year funding program that would appropriate $4.5 billion per year through fiscal year 1987. The extended funding would allow Montana to develop a program plan utilizing an appropriation of $14,850,000 in fiscal year 1978 through fiscal year 1987.

A summary of how the existing FY 76 funds, FY 77 funds and anticipated FY 78 funds will be utilized is included in Table 2.

A proposed project scheduling list is included as Appendix C. This table shows which projects are to be funded and the time increments between each step of the project.

TABLE 2. ESTIMATED CONSTRUCTION GRANT FUNDS REMAING BY QUARTER.

Fiscal Qtr.	FY 76	FY 77		FY 78
		PL 94-447	Supplemental Appropriation	
Beginning Balance	$ 9,242,808	$ 3,024,000	$ 3,272,000	$ 14,850,000
1st Qtr. - 77 (972,563)	8,270,245	3,024,000		
2nd Qtr. - 77 (2,881,110)	5,389,135	3,024,000		
3rd Qtr. - 77 (865,000)	4,524,135	3,024,000	3,272,000	
4th Qtr. - 77 (5,880,000)	-0-	1,668,135	3,272,000	
1st Qtr. - 78 (1,565,000)	*	103,135	3,272,000	14,850,000
2nd Qtr. - 78 (4,525,000)	*	-0-	-0-	13,700,135
3rd Qtr. - 78 (8,130,000)	*			5,570,135
4th Qtr. - 78 (4,355,000)	*			1,215,135
FY 79	*	*	*	

* Funds no longer available.

MUNICIPAL OPERATIONS

1. Past Program

An integral part of municipal sewage treatment is adequate operation and maintenance of the facilities after construction is completed. It does little good for communities to spend millions of dollars for treatment facilities only to have them improperly operated and maintained with poor treatment the net result. For many years, the department has conducted an inspection program for municipal sewage treatment facilities in conjunction with water supply inspections. For the most part, this has consisted of an annual visit to the treatment site by an engineer in the presence of the responsible treatment plant operator. Technical assistance was provided by the department engineer when specific problems were observed during inspections.

In an effort to further improve operation and maintenance, the bureau, in cooperation with Montana State University at Bozeman, has conducted a water and wastewater treatment operator school each year. During recent years, this school has been extended from two and one-half days to five days. About 80 operators attend each year.

In 1971, an operators' newsletter, which is published three times per year, was initiated in cooperation with the Montana Section of the American Water Works Association and the Water Pollution Control Association. The newsletter provides information on events occurring around the state concerning water and wastewater facilities, relates experiences of other operators, providing solutions to specific problems and provides information on new laws and regulations affecting the operator's community.

About six one-day operator seminars per year have been held around the state during fiscal years 1976 and 1977. The seminars provided information on permits, the new "Safe Drinking Water Act", operator certification, and other topics of immediate interest.

During fiscal years 1976 and 1977, the bureau and Laboratory Division conducted three one-week laboratory personnel training sessions for municipal and other personnel doing

self-monitoring analyses for municipalities. Many of the personnel trained in this program are just starting to do laboratory work.

During the past several years, videotape programs for operators have been utilized in most of the larger plants and other areas where several operators were willing to get together. At other places where the operator was isolated from this type of training and where he wished assistance, a slide-tape home study program was utilized. Several of the operators have also taken correspondence courses from Sacremento State College.

2. Five Year Strategy

Considerable effort will be expended in assisting operators at new mechanical secondary treatment plants coming on line to overcome operational problems. The assistance of EPA Regional technical assistance personnel will be requested for the more complex problems which arise. In order to meet the effluent limits already established or which will be established, the plants will need to be operated at high efficiencies at all times.

With new mechanical secondary treatment plants coming on line, there will be a need for approximately 30 new operators. Existing operators at these plants will also need advanced training to operate the secondary treatment facilities. The major training effort will be devoted towards these new facilities. The videotape program appears to have the greatest potential for reaching the greatest number of operators at these facilities. As the program further develops, there should be better tapes available for this purpose which should provide a more effective program.

One, and possibly two, specialized training courses for those doing self-monitoring will be held each year. It is also planned to have a specialized training course for municipal personnel who are responsible for controlling activated sludge secondary sewage treatment systems.

The one-day seminars will continue as they provide operators training where municipal government travel budgets limit or prohibit attendance at a centralized training course. The five-day school at Bozeman will continue to be held for those desiring to receive more intensive training. The tape-slide program will be provided to those in isolated locations and who wish to receive training at home. The newsletter will be continued and will be sent to all operators.

A second operator training instructor position will be requested to begin in fiscal year 1978. This position would be federally funded through the "Safe Drinking Water Act". The present instructor is utilized for training both water supply and sewage treatment operators. If the second instructor can be obtained, one instructor would be responsible for one portion of the state and the second for the remainder. The state is too large to do an effective job with 1 instructor. There are a total of about 800 operators in the state who are responsible for operating water supplies and sewage treatment facilities for municipalities, private facilities such as trailer courts and industrial wastewater treatment facilities. This is a program which needs to be expanded to reach a greater number of operators both through training and direct on-the-job assistance.

The operator certification program will be continued and expanded to include a greater number of the private facilities. A periodic review and revision of examinations will be made to make them more applicable to an operator's particular plant.

3. Proposed Fiscal Year 1978 Program

Operation and maintenance inspections will be performed for at least 20 major municipal and 10 minor municipal facilities where an EPA Form 7500-5 or equivalent form has been completed. Routine inspections will be made of at least 90% of the remaining municipal treatment facilities. Assistance will be provided at plants having special problems by bureau or EPA personnel as time permits.

The annual water and wastewater school will be held at Bozeman November 14-18, 1977. The newsletter to operators will be continued with three issues expected to be published. Six one-day seminars for water and wastewater operators are planned.

The videotape program will be continued at Billings, Kalispell and Missoula. The videotape program at Laurel and Conrad started in fiscal year 1977 will be initiated at additional cities. The home study slide-tape cassette program will be continued.

The following summarizes anticipated operator training activities:

Operators in videotape programs (7 cities) -	50
Operators attending annual school -	80
Operators attending one-day seminars -	150
Operators completing home study courses -	10
Operators completing laboratory course -	15
Operators completing activated sludge course -	20
Operators receiving specific on-the-job training -	10
Total -	335

The following summarizes the need for new municipal sewage treatment plant operators for fiscal year 1978.

New construction -	15
Staff increases -	5
Replacement -	40
Total -	60

The operator certification program is expected to continue with administration of the program provided by the bureau and guidance provided by an advisory board established by law. Examinations will be given twice during the year for all classes, while examinations for the lower two classes will be given throughout the year. It is expected that about 200 examinations will be given for all classes. Also continued will be the certification program for water and wastewater operators of large trailer courts, motels, and truck stops having their own water supply and sewage treatment systems. Rewriting of some of the examinations will be accomplished.

The principal problem facing the bureau in their training program is replacing their instructor who is retiring and hiring a new instructor under the "Safe Drinking Water Act". Personnel having capabilities in this field are difficult to hire at the current state classification grade and corresponding salary.

A formal training program was established by North Montana College at Havre last year, to train technicians for water and wastewater facilities. The bureau will assist the College as much as possible and coordinate funding of a separate training faciliy at the College through a grant with E.P.A. under Section 109 of Public Law 92-500.

WASTE DISCHARGE PERMITS

1. State Legislation

Section 69-4806, R.C.M. 1947 states in part:

It is unlawful to:

(2) carry on any of the following activities without a current permit from the department:

(a) construct, modify, or operate a disposal system which discharges into any state waters;

(b) construct or use any outlet for the discharge of sewage, industrial wastes, or other wastes into any state waters;

(c) discharge sewage, industrial wastes, or other wastes into state waters;

(3) violate any provisions set forth in a permit or stipulation, including but not limited to limitations and conditions contained therein;

Section 69-4809.1, R.C.M. 1947 states in part:

(1) The department shall:

(a) issue, suspend, revoke, modify, or deny permits to discharge sewage, industrial wastes, or other wastes into state waters, consistent with rules made by the board;

(b) examine plans and other information needed to determine whether a permit should be issued or suggest changes in plans as a condition to the issuance of a permit;

(c) clearly specify in any permit any limitations imposed as to the volume, strength, and other significant characteristics of the waste to be discharged;

2. Review of Past Program

A waste discharge regulation was adopted for sanitary sewage and industrial waste discharges to surface waters, and a formal permitting program was initiated during 1968 for these wastewaters. Under the program, 81 industrial and 135 sanitary sewage waste discharge permits were issued. The larger dischargers were required to submit monitoring information on their effluent. During 1972, a waste discharge permit regulation for confined animal feeding was adopted by the board. This regulation required all operations feeding cattle, swine, sheep or other livestock for marketing purposes within any confined area or enclosure which is not normally used for raising crops or as pasture, which, at any time, discharges drainage water or manure to a state water or is causing or contributing to air pollution, to have a waste discharge permit. Permits were required of all new or expanding operations, and existing operations were required to have a permit before June 24, 1974. Under the program, several meetings were held with feeder organizations to explain the permit program, and 32 permits were issued.

The Federal Water Pollution Control Act Amendments of 1972, P.L. 92-500, established the National Pollutant Discharge Elimination System whereby the federal government is authorized to issue permits for the discharge of pollutants into the nation's streams. The act provides that states with adequate water pollution control programs may take over administration of the federal permit program in their state. To avoid duplication of effort by state and federal governments, the state decided to take steps to administer the NPDES program. As the first step, the state law was revised during the 1973 legislative assembly to give definite authority for requiring monitoring, additional enforcement authority, including increased fines, and permission for the state to establish effluent and pretreatment standards. In addition, the Board of Health and Environmental Sciences adopted a rule entitled the Montana Pollutant Discharge Elimination System (MPDES) on January 18, 1974. The MPDES rule became effective on March 8, 1974 and provided the additional program elements needed by the state to comply with rules and regulations promulgated by the administrator of the U.S. Environmental Protection Agency pursuant to section 304(h) of the act. Section 304(h) relates to the state program elements necessary to administer the NPDES program.

In accordance with Section 402 of the act, Governor Thomas L. Judge of the state of Montana applied to the administrator of EPA for permission to administer the

NPDES program on March 11, 1974. Following a public hearing on April 20, 1974, the administrator approved the state's program, and the state began issuing waste discharge permits under the MPDES in Montana on June 10, 1974.

3. Five Year Strategy

The department will strive to have all major dischargers and all minor dischargers, in need of an MPDES permit, under MPDES permit during this period. MPDES permits are those permits issued in Montana by the department under the NPDES permit program, which was established pursuant to Section 402 of P.L. 92-500, and all NPDES permits issued in Montana by EPA prior to approval of the state's permit program. The department expects to have about 26 major municipal and 105 minor municipal dischargers under MPDES permit through the period. In addition, the department expects to have about 15 major non-municipal (industrial) and 156 minor non-municipal (including 80 industrial and bridge construction projects, 65 agricultural and fish farming, and 11 water treatment plants) dischargers under MPDES permit prior to fiscal year 1978.

The department will undertake an active compliance inspection program during the period. Emphasis will be placed on obtaining compliance with permit conditions by all major dischargers and attaining the most efficient treatment possible with existing waste treatment facilities. A compliance inspection of a waste treatment facility will either be in the form of a reconnaissance inspection, sampling inspection, operation and maintenance inspection, or technical assistance demonstration.

A reconnaissance inspection consists of a brief visit to a permittee made for at least one of the following purposes:

(a) to observe the status of construction required by a permit;

(b) assess the adequacy of the permittee's self-monitoring program;

(c) check records; or

(d) discuss permit requirements and give advice when appropriate on how to meet requirements.

A sampling inspection includes visits where samples are taken and analyzed in the laboratory for the purpose of determining the accuracy of a permittee's self-monitoring program and for checking compliance with effluent limitations contained in the discharge permit.

Operation and maintenance inspections will be designed to assess the adequacy of plant operation and maintenance, equipment and facility needs and may include effluent sampling. The inspection will result in completion of EPA inspection form 7500-5 for mechanical plants and the department inspection form for lagoon facilities.

Technical assistance demonstrations will be visits of two or more days conducted to demonstrate methods, techniques, and procedures for identifying and correcting deficiencies in plant operation in order to improve the overall performance and efficiency of the treatment facility.

Inspections of industrial dischargers will consist of either reconnaissance inspections or sampling inspections. For municipal dischargers, operation and maintenance inspections and technical assistance demonstrations will be conducted as well as sampling and reconnaissance inspections. Realistically, there will be very little difference between a reconnaissance inspection and an operation and maintenance inspection for a municipal facility. The department intends to conduct a sampling inspection of all major industrial dischargers at least two times during each fiscal year in the period. Major dischargers which appear to be in violation of their permits may be inspected more frequently than indicated above.

Minor industrial dischargers will be compliance inspected as manpower and funds allow. Minor dischargers which appear to be in violation of their permit will be inspected for compliance as desired to achieve compliance with permit conditions and/or secure evidence for enforcement action.

There are approximately 170 public sewer systems in Montana which will be inspected during each fiscal year, even though not all of the systems have discharges. These inspections will be of the operation and maintenance or reconnaissance type.

Either sampling inspections, reconnaissance inspections or operation and maintenance inspections will be conducted at all major municipal facilities as well as most of the minor municipal facilities during each fiscal year. In addition, sampling inspections will be conducted on a few selected minor municipal dischargers. Emphasis will be placed on inspection and sampling those discharges with wastewater treatment facilities considered to be capable of, or marginally capable of, meeting the national secondary treatment standards.

The department will attempt to review the periodic self-monitoring information received by the department in a timely manner and prepare for eventual inclusion into a computerized data storage system. The self-monitoring information will be reviewed during the scheduling of compliance monitoring activities, and those dischargers that appear to be violating the effluent limitations of their MPDES permits will be monitored for compliance as discussed above.

It is the goal of the department to insure that best practicable control technology and best available control technology effluent limitations are met by all non-municipal dischargers following July 1, 1977 and by July 1, 1983, respectively, as required by the act and further defined by EPA regulations. It is the goal of the department to insure that the national secondary treatment standards and that best practicable control technology are met by all municipal dischargers following July 1, 1977 and by July 1, 1983 respectively, as required by the act and further defined by EPA regulations. It is also the goal of the department to achieve no discharge of pollutants to state waters by July 1, 1985.

4. Proposed Fiscal Year 1978 Program

The department intends to: (1) process all MPDES permit applications received, and (2) renew, during fiscal year 1978, all permits that expire during fiscal year 1978. Those permits that expire during the first quarter of fiscal year 1979 will also be processed during this fiscal year.

The department does not expect to receive any new municipal permit application during fiscal year 1978. However, it is expected that two expiring major municipal and seven minor municipal permits will be processed and renewed during the fiscal year. The department expects to process

applications from approximately 35 minor non-municipal applicants (including 15 feedlots, 10 placer mining and 10 construction) during the fiscal year. In addition, as high as 20 fish farming operation applications may be processed. Processing of the irrigation return flow applications will be delayed until EPA regulations affecting the same are finalized. It is expected that most of the state's irrigation return flows will be covered by general permits. Recent revisions in the federal regulations regarding animal confinement facilities will be considered on new applications but will not in our opinion necessitate reissuance of any permits. The MPDES rule applies to any animal confinement facility, without regard to numbers, which discharges to state waters. Those having capacity for less than 1,000 head would have installed waste control facilities based on either a 10 or 25 year - 24 hour rainfall occurrence. These facilities would not be discharging pollutants through a man-made ditch or other device and waters of the United States would not pass directly through the feedlot or come in direct contact with the animals in confinement. It is expected that one expiring major non-municipal and four minor non-municipal permits will be processed and renewed during the fiscal year.

The department will undertake an active compliance inspection program during the fiscal year. The department intends to conduct a sampling inspection of all fifteen major industrial dischargers at least twice during the fiscal year. Ten major municipal dischargers will be sampled during the fiscal year. The remaining 16 major municipal dischargers will either be reconnaissance or operation and maintenance inspected. Minor dischargers which appear to be in violation of their permit will be inspected for compliance as necessary to achieve compliance and/or secure evidence for enforcement action. Other minor dischargers will be compliance inspected as manpower and funds allow.

During the fiscal year, the department will strive to improve its programs for: (1) timely review and utilization of self-monitoring reports, and (2) tracking of compliance schedule progress.

The priorities in the permit program are as follows:

(1) Strict Enforcement of Existing Major Permits

(2) New Permit Issuance

(3) Permit Renewals

(4) Self-Monitoring Report Review

Additional personnel are needed for a more effective permit program, particularly in the areas of seeking dischargers who are not applying for permits, doing detailed field investigations and evaluations of new discharge applications, and in preparation of PER's and EIS's required by MEPA.

The provision of an EPA engineer to work with the Helena bureau staff has been of great assistance to the program and has greatly helped in coordinating the program with EPA.

It would appear to the bureau that EPA's efforts in monitoring of Montana's dischargers could be better left to the state. The bureau's laboratories and staffs are for the most part located close to the major dischargers. It is believed that EPA's assistance in the sampling and analytical area could best be devoted to assisting the states in intensive surveys of specific problem areas where the state particularly is in need of assistance.

The major non-municipal and municipal discharger lists are attached as Tables 3 and 4, respectively.

TABLE 3. MAJOR MUNICIPAL DISCHARGERS

Discharger	Permit No.	Basin
City of Bozeman	MT-0022608	Upper Missouri
City of Dillon	MT-0021458	Upper Missouri
City of Missoula	MT-0022594	Lower Clark Fork
Silver Bow Metro SID #1	MT-0022012	Upper Clark Fork
City of Hamilton	MT-0020028	Upper Clark Fork
City of Deer Lodge	MT-0022616	Upper Clark Fork
City of Kalispell	MT-0021938	Flathead
City of Columbia Falls	MT-0020036	Flathead
City of Polson	MT-0020559	Flathead
City of Whitefish	MT-0020184	Flathead
City of Billings	MT-0022608	Upper Yellowstone
City of Livingston	MT-0020435	Upper Yellowstone
City of Laurel	MT-0020311	Upper Yellowstone
City of Great Falls	MT-0021920	Missouri-Sun-Smith
City of Helena	MT-0022641	Missouri-Sun-Smith
City of Havre	MT-0022535	Milk
City of Glasgow	MT-0021211	Milk
City of Miles City	MT-0020001	Lower Yellowstone
City of Baker	MT-0022381	Lower Yellowstone
City of Glendive	MT-0021628	Lower Yellowstone
City of Libby	MT-0020494	Kootenai
City of Hardin	MT-0020834	Middle Yellowstone
City of Conrad	MT-0020079	Marias
City of Cut Bank	MT-0020141	Marias
City of Lewistown	MT-0020044	Middle Missouri
City of Wolf Point	MT-0020532	Missouri-Fort Peck

TABLE 4. MAJOR NON-MUNICIPAL DISCHARGERS

Discharger	Permit No.	Basin
The Anaconda Company	MT-0000493	Missouri-Sun-Smith
Phillips Petroleum Co.	MT-0000434	Missouri-Sun-Smith
The Anaconda Company	MT-0000183	Upper Clark Fork
The Anaconda Company	MT-0000191	Upper Clark Fork
Hoerner Waldorf Corp.	MT-0000035	Lower Clark Fork
J. R. Daily	MT-0000094	Lower Clark Fork
Great Western Sugar	MT-0000281	Upper Yellowstone
Burlington Northern, Inc.	MT-0000388	Upper Yellowstone
Farmers Union Central Exchange	MT-0000264	Upper Yellowstone
Continental Oil Company	MT-0000256	Upper Yellowstone
Exxon	MT-0000477	Upper Yellowstone
Montana Power Company	MT-0000396	Upper Yellowstone
Holly Sugar Company	MT-0000248	Lower Yellowstone
Montana-Dakota Utilities	MT-0000302	Lower Yellowstone
St. Regis Paper Company	MT-0000221	Kootenai

DREDGED OR FILLED MATERIALS DISCHARGE PERMITS

1. Past Program

Section 6(g) of the state's Water Quality Standards (MAC 16-2.14 (10)-S14480) states:

(g) No wastes are to be discharged and no activities conducted which either alone or in combination with other wastes or activities, will cause turbidities to exceed those allowed by specific water quality criteria; provided, short-term activities necessary to accommodate essential dredging, channel or bank alterations, stream diversions or other construction where turbidities in excess of the criteria are unavoidable, may be authorized by the Department under conditions as it may prescribe.

In 1974, the Water Quality Bureau implemented Section 6(g) and began review of proposed construction activities causing unavoidable increases in turbidities exceeding the water quality criteria. Section 6(g) was adopted to permit essential construction activities where short-term increases in turbidities would occur without them violating the specific water quality criteria. Restrictions or limitations can be imposed on authorizations to abate or minimize resulting turbidity increases.

In 1975, the legislature passes Senate Bill 310 known as the Streambed and Land Preservation Act of 1975. The Act prohibits unauthorized projects causing physical alterations or modifications of streams and establishes a review team to evaluate proposed projects. The review team determines if a proposed project is necessary and whether adequate safeguards are taken to protect the integrity of the stream and to minimize soil erosion and sedimentation; thereby protecting water quality and adjacent lands. The review team consists of a member of the District Supervisors, a representative of the Department of Fish and Game, and the applicant. Authorization from the District is required prior to commencement of a project.

To eliminate duplication of effort and still comply with the Water Pollution Control Act and Water Quality Standards, the Department has entered into an agreement with the Department of Fish and Game that they review all 310 projects with respect to compliance with provisions of the water pollution control laws and Section 6(g) (i.e., if turbidities above the water quality criteria are exceeded, or conditions and limitations prescribed by the team are adequate

to protect long-term in-stream water quality standards). Necessary projects where turbidity and law violations would occur would be "tagged" or referred to the Water Quality Bureau for Section 6(g) authorization considerations. Authority for this cooperative agreement appears to be provided by Section 69-4827 which states:

> *The council, board, and department may require the use of records of all state agencies and may seek the assistance of such agencies. State, county, and municipal officers and employees, including sanitarians and other employees of local department of health, shall cooperate with the council, board, and department in furthering the purposes of this chapter, so far as is practicable and consistent with other duties.*

Effective July 1, 1977, the Corps of Engineers pursuant to Section 404 of Public Law 92-500 will have the responsibility to regulate discharge of dredged or fill materials for those coastal and inland waters and wetlands which have a flow exceeding five cubic feet per second or five surface acres in size.

The Water Quality Bureau under this program is to provide certification that water quality standards and applicable effluent standards will be met after the best engineering and conservation practices have been utilized before the project is permitted by the Corps (Section 401 of Public Law 92-500). The certification may be waived by not acting on the certification within a reasonable time period.

2. Five Year Strategy

Since the Corps of Engineers has the responsibility for streams, lakes and impoundments up to the previously mentioned flow and acreage limitations duplication of effort will occur between the Section 6(g) authorization and Section 401 of Public Law 92-500.

To eliminate this duplication of effort the Department has entered into the previously mentioned agreement with the Department of Fish and Game and a joint Public Notice (PN) with the Corps. As was mentioned, the Department of Fish and Game will handle all 310 projects and only notify the Department when the necessary or "tagged" project would violate the Water Quality Standards. The Department would review the "tagged" project when the joint PN was issued on the project. The Department issues a joint PN with the Corps so the applicant no longer needs to ask the Department for a 401 certification. It is requested through the joint PN.

If the project has been "tagged" by the Department of Fish and Game as a necessary project that will have a water quality impact or falls outside of the Corps jurisdiction, then the Department can review the project more closely by asking for a 6(g) application to be filled out or ask for supplemental material to the PN if it is not adequate to issue the certification.

The primary screening or review of all projects by the Department of Fish and Game and the elimination of sending out 6(g) applications to all projects by the joint PN with the Corps of Engineers will make the manpower demands somewhat relieved.

3. Proposed Fiscal Year 1978 Program Plan

During the fiscal year 1978, a trial period of the above mentioned method of handling dredge and fill permits will be undertaken. Only this trial period can tell whether the initial screening and joint PN will limit those projects that the Department has to look at in depth to a point where the present staffing can handle them adequately.

To properly evaluate and timely process all dredge and fill permits, the Department would have to employ 1 man year of effort. However, it is the Department's intent to have worthy projects proceed as timely as possible and not to slow down projects due to lack of manpower capabilities.

ENFORCEMENT

1. State Legislation

Section 69-4806, R.C.M. is the heart of Montana's water pollution control law. This section states:

It is unlawful to:

(1) cause pollution as defined in section 69-4802(5), R.C.M. 1947, of any state waters or to place or cause to be placed any wastes in a location where they are likely to cause pollution of any state waters;

(2) carry on any of the following activities without a current permit from the department:

(a) construct, modify, or operate a disposal system which discharges into any state waters; or

(b) construct or use any outlet for the discharge of sewage, industrial wastes, or other wastes into any state waters; or

(c) discharge sewage, industrial wastes, or other wastes into any state waters; or

(3) violate any provision set forth in a permit or stipulation, including but not limited to limitations and conditions contained therein;

(4) violate any order issued pursuant to this chapter; or

(5) violate any provision of this chapter.

2. Review of Past Program

Two administrative rules have been adopted by the Board of Health and Environmental Sciences which are key

elements in Montana's water pollution control program. MAC 16-2.14(10)-S14480 contains Montana's water quality standards which describe in-stream water quality requirements for specified uses and serve as the primary means for defining pollution of surface waters. The Montana Pollutant Discharge Elimination System rule is contained in MAC 16-2.14(10)-S14460. This rule provides the mechanism for authorizing and controlling point source discharges to state waters.

Violators of Montana's water pollution control law or rule, permit, or order established or issued pursuant to the law could be subject to injunction, civil penalties up to $10,000 for each day of violation or criminal penalties with fines not to exceed $25,000 per day of violation and/or imprisonment for not more than one year for an initial conviction and not more than $50,000 per day of violation and/or imprisonment for not more than two years for subsequent violations.

The state attorney general is the statutory attorney for the department. The department attorneys have been commissioned as special assistant attorney generals to bring all civil action to court on behalf of the department. State law makes the county attorney the public prosecutor, and he is responsible for attending district court and conducting, on behalf of the state, all criminal prosecutions for public offenses and represents the state in all criminal matters and proceedings to which it is a party. The state attorney general has no authority to institute criminal actions in any counties of the state. This is the duty of the county attorneys.

Changes in department staffing were undertaken in fiscal year 1977 in an attempt to bring an effective enforcement program into being. During fiscal year 1977, approximately 3½ man-years were provided by the department for enforcement of water pollution control laws. This included one man-year (attorney) from the legal unit, three quarters man-year from the enforcement coordinator, one and three quarters man-year support from the technical staff in the form of compliance monitoring, self-monitoring, investigations, and engineering expertise. The main goal for the past year has been: (1) to develop a review procedure of the MPDES permit files for checking compliance with the MPDES permit, (2) utilizing the guidelines developed in the review procedure to orderly and timely follow up on the permit violations and (3) to develop a system for handling and following up complaints as rapidly

as possible to reinforce the general public's view that the department will respond to water quality problems.

The increased manpower levels assigned to enforcement have been sufficient to achieve the desired goals. However, the legal actions taken by the Water Quality Bureau have as yet not gone to any extended proceedings which would definitely drain the manpower from the review procedure and timely response to complaints. Also, the present manpower allocated to enforcement does not extend into compliance monitoring or extended review of the minor permittees, and essentially, no enforcement follow up has taken place on violations of section 6(g) authorizations and 401 certifications.

Abatement orders issued pursuant to section 69-4809.1 (1)(f) and compliance orders under section 69-4820.1 have been very effective administrative enforcement provisions available to the department. In fiscal year 1977, the expanded enforcement program utilized the penalty provision through court action and preliminary enforcement letters to support and strengthen the abatement and compliance order enforcement provisions.

The status of the enforcement program for fiscal year 1977 as of June 1, 1977 is summarized as follows: fifty complaints have been received and acted upon by the department; twenty-three violation report forms were submitted to the legal unit; eleven compliance and abatement orders have been issued by the department; three court complaints were initiated by the department of which two have been settled and one case is still pending; and thirty preliminary enforcement letters were sent. Three violation report forms are pending in the legal unit.

3. Five Year Strategy

The five year strategy for the enforcement program must center on an attempt at (1) obtaining additional state or federal funds for additional manpower to assist in the routine surveillance monitoring and compliance investigations to comply with sections 69-4806 (1)(2)(a), (b)(c) and investigations on violations of section 6(g) authorizations and 401 certifications, and (2) administering the file review process so all violations of the MPDES permits can be evaluated in a timely manner to comply with section 69-4806(3).

If the required one half man-year need is satisfied by additional personnel or a reallocation of personnel from other programs, the enforcement program should be adequate to enforce the present rules and section 69-4806.

If an attempt is made to administer and enforce additional provisions of sections 69-4806 and 69-4805, R.C.M. 1947, as is contemplated by current efforts being made with groundwater rules and nondegradation, an even greater manpower effort will be needed for adequate enforcement.

4. Fiscal Year 1978 Program

Manpower for enforcement during fiscal year 1978 is expected to remain at approximately the same level as present. The department should be able to maintain an adequate level of enforcement activity with all of Montana's water pollution control laws with the possible exception of the compliance monitoring of some of the minor permitted facilities and surveillance on the section 6(g) authorizations or the 401 certifications. A portion of the enforcement resources available will be devoted to the development of a nondegradation policy.

OIL AND HAZARDOUS SPILLS CONTROL

1. State Legislation

Section 69-4823 (1), (2) and (7), R.C.M. provides the legal obligation for a State Oil and Hazardous Materials Pollution Control Contingency Plan to deal with removal, prevention and abatement of oil and hazardous substances spills affecting state waters.

Section 69-4823 states in part:

(1) A person who violates this chapter or a rule, permit, effluent standards, or order issued under the provisions of this act shall be subject to a civil penalty not to exceed ten thousand dollars ($10,000). Each day of violation constitutes a separate violation.

(2) A person who willfully or negligently violates section 69-4806, R.C.M. 1947, or any pretreatment standard established pursuant to this act is guilty of an offense and subject to a fine not to exceed twenty-five thousand dollars ($25,000) per day of violation or by imprisonment for not more than one (1) year or both. Following an initial conviction under this subsection, subsequent convictions shall subject a person to a fine of not more than fifty thousand dollars ($50,000) per day of violation, or imprisonment for not more than two (2) years, or both.

(7) In a civil action initiated by the department under this act, the department may ask for and the court is authorized to assess a violator for the cost of the investigation or monitoring survey which led to the establishment of the violation, and any expense incurred by the state in removing, correcting or terminating any of the adverse effects upon water quality resulting from the unauthorized discharge of pollutants.

2. Past Program

The Federal Oil and Hazardous Materials Pollution Contingency Plan was promulgated under Section 311 of the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) and

is applicable to all waters of the United States. In addition to this federal plan, individual state plans are required by law. The state plan supplements the federal plan.

A State Oil and Hazardous Materials Spill Contingency Plan was developed during fiscal year 1973 and was printed and distributed during fiscal year 1974. Oil spill inspections and reporting have been coordinated with the EPA, Department of Fish and Game, and the Oil and Gas Conservation Division of the Montana Department of Natural Resources and Conservation. During fiscal year 1974, substantial improvements were provided in the oilfields in the Clarks Fork of the Yellowstone River drainage. This area was the source of many of the spills which occurred in former years.

3. Five Year Strategy

Oil spill inspections and reporting will be coordinated with the EPA, Department of Fish and Game, the Oil and Gas Conservation Division of the Department of Natural Resources and Conservation and federal land resource management agencies. The bureau will also cooperate with adjacent states, EPA, and adjoining provinces of Canada to provide a regional contingency plan. Further work will be done in the oilfields to further determine pollutional effects of oilfield activities.

Thus far, oil has played the dominant role in developing spill countermeasures. However, it is anticipated that efforts regarding hazardous materials will be expanded through cooperation with other bureaus in the department and other agencies. The state contingency plan will be updated periodically.

4. Proposed Fiscal Year 1978 Program

The major emphasis will be on improved response to spills through better communication between persons, industry and agencies concerned.

Inspections of problem areas will be conducted with land resource management agencies such as the Bureau of Land Management.

NONPOINT SOURCE POLLUTION

1. State Legislation

Section 69-4801 states in part:

(2) It is not necessary that wastes be treated to a purer condition than the natural condition of the receiving stream as long as the minimum treatment requirments established under this chapter are met. "Natural" refers to conditions or material present from runoff or percolation over which man has no control or from developed land where all reasonable land, soil and water conservation practices have been applied. Conditions resulting from the reasonable operation of dams at the effective date of this act are "natural".

Section 69-4802 states in part:

(5) "Pollution" means contamination, or other alteration of the physical, chemical, or biological properties of any state waters, which exceeds that permitted by Montana water quality standards, including, but not limited to, standards relating to change in temperature, taste, color, turbidity, or odor; or the discharge, seepage, drainage, infiltration or flow of any liquid, gaseous, solid, radioactive, or other substance into any state water which will or is likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife. A discharge, seepage, drainage, infiltration or flow which is authorized under the pollution discharge permit rules of the board is not "pollution" under this chapter.

Section 69-4806 states in part:

It is unlawful to:

(1) cause pollution as defined in section 69-4802(5), R.C.M. 1947, of any state waters or to place or

cause to be placed any wastes in a location where they are likely to cause pollution of any state waters;

2. Review of Past Program

The principal source of nonpoint source of pollution in Montana is sediment due to erosion. The problem of sediment has, by necessity, received little attention by the bureau in past years. Due to the widespread nature of the problem and limited funds and manpower to deal with the issue, direct input toward a sediment control program has been minimal. While past efforts to establish statewide sediment control have failed, the issue has not been totally ignored by the state. Senate Joint Resolution 52, which was adopted by the 1974 Montana Legislature, charges the Department of Natural Resources and Conservation and the Resource Conservation Advisory Council in cooperation with the Montana Association of Conservation Districts, Department of Health and Environmental Sciences, and other interested parties to make a thorough sediment control study. Such a study would include a review of existing legislation and make recommendations to the 1975 legislative session for a statewide program to control soil erosion and sediment damage. In accordance with this directive, a special committee, consisting of eight state and federal agencies, was formed to provide a broad interdisciplinary approach to develop a situation statement on sediment in Montana. The situation statement which was prepared discussed not only the complexity of soil erosion problems through the state of Montana, but also provided a summary of existing state and federal legislation which could, in some way, be used to deal with this issue. The situation statement was then forwarded to several hundred interested parties along with a questionnaire to provide these people with an opportunity to express their feelings regarding the existing situation and any proposed control program. Several task groups were then utilized to deal with selected areas of the problem. Following meetings by these groups, the decision was made that an additional assessment of the situation must be accomplished before legislative recommendations could be made.

As an indirect outgrowth of this directive, the bureau, during fiscal year 1976, submitted a proposal to the Environmental Protection Agency for a statewide sediment control project which would hopefully provide the additional assessment previously identified. This project began in earnest during January of 1976 and is attempting to accomplish the following objectives:

(1) Evaluate, in detail, existing regulatory authority.

(2) Using the water quality inventory and management plans that have been completed for the 16 basins in Montana as a guide, provide supplemental information regarding sediment problems.

(3) Develop best management practices necessary for the control of erosion problems.

(4) Develop and initiate a sediment control program administered on a local level by the Lewis and Clark Conservation District.

(5) Conduct a cost-effective analysis for the implementation of sediment control programs and the application of required conservation practices.

The Department of Health and Environmental Sciences, Department of Natural Resources and Conservation, and the Lewis and Clark Conservation District are working jointly on this project. The project is viewed as an opportunity to evaluate what appears to be an excellent approach to sediment control which, if successful, could have widespread application.

3. Five Year Strategy

In approaching nonpoint sediment water pollution problems, the Water Quality Bureau will place its emphasis on preventive measures; and as a program develops, the emphasis can then be shifted to the reduction or elimination of existing problems. Any program which is developed to deal with nonpoint sediment problems can only be successful with cooperative efforts from a number of governmental agencies and organizations with expertise in land use management and with local support. The statewide sediment control project currently underway will hopefully provide the bureau with an opportunity to adequately evaluate one possible approach to a sediment control program. The project will allow the Lewis and Clark Conservation District to implement and administer a sediment control program as provided for under Montana Conservation District Law. Under this law, the conservation district and the board of supervisors have the authority to adopt land use regulations in the interest of conserving soil and preventing or controlling erosion. Such a program would emphasize local control by capable agencies or groups in line with current federal and state philosophy. And it would possibly develop an extensive sediment control program which would require considerably less resource input by regulatory agencies than would a totally state-administered program.

Abatement of nonpoint sediment pollution problems will require expenditure of a considerable amount of resources. Such expenditure would substantially exceed the amount of state resources which have been devoted to this area in the past, but without some additional commitment, little can be done towards developing an effective program. The Section 303(e) water quality inventory and management plans which have been completed during this period for all basins within the state have at least briefly evaluated the nature and extent of sediment problems within each basin. The preliminary investigations which have been made will require more detailed evaluation, including monitoring, to characterize the pollutants and their effect on the receiving streams. The problem areas identified in these plans should be further discussed with local representatives of groups and agencies currently involved with these problems. It is hopeful that the Section 208 planning effort will provide an effective tool by which the required objectives can be accomplished.

The Section 208 planning effort and the statewide sediment control project will be closely coordinated to insure that duplication of effort is minimized. Should the statewide sediment control project prove that an effective sediment control program can be administered by local conservation districts, the bureau, in cooperation with other agencies, would then work toward getting other conservation districts throughout the state to accept this responsibility. Should, however, the project prove somewhat unsuccessful for any reason, the necessary legislation to develop a statewide sediment control program administered from a different level of government will be sought.

The nonpoint source pollution inventory currently being completed by the Montana Association of Conservation Districts through the Statewide 208 planning effort should provide additional information as to those stream segments which are currently being substantially affected by sediment. The contract with MACD also calls for recommendations as to programs necessary to deal with the problems which are identified.

4. Fiscal Year 1978 Strategy

The Statewide Section 208 planning effort identified elsewhere in this document will hopefully provide the bureau with an opportunity for additional indepth study of sediment and its effect on water quality. While sediment has been identified as one of the most significant pollutants in our agriculturally-oriented state,

additional information must be obtained before complete control can be accomplished. It is therefore extremely important that sediment control efforts under the Statewide Section 208 program be coordinated with those of the statewide sediment control project. The real test of the statewide sediment control project will come when the proposed ordinance will be put to a referendum vote during June, 1977. The state's position and future sediment control programs will be developed after the results of the vote are known and if successful, after the program has been implemented by the Lewis and Clark Conservation District.

MONITORING

1. State Legislation

Section 69-4809.1 states in part:

(1) The Department shall:

(d) collect and furnish information relating to the prevention of water pollution;

(e) conduct or encourage necessary research and demonstrations concerning water pollution.

2. Monitoring Strategy

The objective of the Water Quality Bureau's monitoring program is to provide information for management decisions regarding the quality of Montana's waters. To meet this objective requires not only data collection, but also data analysis and assessment. An important element of the Bureau's monitoring program is the concept of preventive maintenance. This concept gives some prospective to the design of the program. Much of the water in Montana is of relatively high quality in relation to its designated uses. The maintenance of this high quality is of prime importance in the Bureau's monitoring program. The Bureau's program is also highly activity related, i.e., areas where activities such as mining, logging, agriculture and industrialization are occuring or are expected to occur in the future are monitored to insure that water quality is maintained for all designated uses. The basic monitoring strategy is the design of a monitoring network that fulfills the objective at a minimum cost. An integral part of this strategy is coordination between the Bureau and other agencies which monitor water quality in Montana.

3. Review of Past Program

During fiscal year 1977, the Water Quality Bureau's primary water quality monitoring network consisted of 16 physical and chemical stations and 46 biological stations. The biological stations were sampled annually for benthos, periphyton and nutrients.

A number of other agencies collected water quality data in Montana during fiscal year 1977. These included principally the U.S. Geological Survey, U.S. Bureau of Reclamation, U.S. Forest Service, and U.S. Environmental Protection Agency, for physical and chemical data, and the Montana Department of Fish and Game for biological data.

The following projects were completed in fiscal year 1977 (See "Technical Studies and Support" section):

(a) Saline Seep Project - an investigation of impacts of saline seep on surface waters; funded by Montana Department of State Lands;

(b) Coal developments - an investigation of impacts of coal mining and energy developments on water quality; funded by the Old West Commission;

(c) Tongue River - a determination of effects of coal development on water quality in the Tongue River and Tongue River Reservoir; funded by EPA.

The continuous temperature data that was to be collected on the Big Hole and Beaverhead River at Twin Bridges through a coordinated effort with the Montana Department of Fish & Game during fiscal year 1977 was not realized. This was primarily due to a shortage of equipment and manpower. Continuous conductivity was not collected on Silver Bow Creek below the Warm Springs ponds. After further consideration, this intensive of a level of monitoring was deemed unnecessary.

Of the proposed biological stations to be sampled in fiscal year 1977, Arrow Creek in the Middle Missouri Basin was dropped and the Montana Department of Fish and Game took over sampling of those sites in the Poplar River Drainage (part of the Lower Missouri Basin), in the Middle Yellowstone Basin, and the Lower Yellowstone Basin. The biological stations in the Little Missouri Basin and the St. Mary's Basin proposed for sampling in fiscal year 1977 were not sampled due to lack of manpower.

The chain of custody procedures designed previously for proper handling of samples between the time of collection and analysis are still in use on all compliance monitoring, and samples which may be required as evidence in any legal action by the Bureau. The Montana Department of Fish and Game and the Montana Department of State Lands have both adopted the Bureau's chain of custody procedures.

The internal and external quality assurance programs developed over the past several years are still in operation in the Water Quality Bureau laboratory. In the past two years, (FY 77, FY 76), the quality assurance program has accounted for about 20 to 30% of the time and cost of the laboratory operations. In the past year, a quality control tool for the common ions was developed which compares the sum of the ion concentrations in milliequivalence per liter to the specific conductance. This allows detection of errors in analysis of the common ions that would not be detected from the normal cation-anion balance. This aspect of quality control seems quite promising since it can be done by the computor in the data processing and handling phase and, therefore; does not require such extensive man time. In the past year, the quality assurance program has shown no major analytical problem areas.

The computor software transfer system which transfers the Bureau's water quality data to the EPA STORET system has been completed and EPA has started to receive the Bureau's past data. This transfer system is part of an overall data processing and handling system being developed by the Bureau. The Bureau's system utilizes the Mark IV File Management System developed by Informatics, Inc. Agencies collecting major amounts of water quality data in Montana have been contacted regarding data input to the Bureau's system.

In the past several years, a different sampling technique as opposed to the fixed station, fixed frequency method has been investigated by the Bureau. This new technique has been coined by the Bureau as the "Synoptic Run Technique". In this technique, samples are collected on an entire drainage at a number of sites at approximately the same time. The sampling frequency is based upon hydrologic events such as high flow maximum load, low flow warm temperature, and lowest flow maximum concentrations. The synoptic data set provides better information as to temporal and spacial changes of water quality, and are also more applicable as input data to water quality models that may be needed to provide information for management decisions.

During the past year, the Bureau has worked with the Department of Natural Resources and Conservation, and Tetra Tech, Inc., a private consulting firm, on water quality models. A water quality subroutine for conservative parameters (e.g., TDS, Na, B), has been added to the Hyd-2 surface water quantity model employed by the Department of Natural Resources and Conservation. This model is being used in connection with the Poplar River study currently

being done by several agencies under the auspices of the EPA. This hybrid of the Hyd-2 model projects monthly mean concentrations at various sites in the drainage. The model developed by Tetra Tech is a surface water quality model. The model projects concentrations of a variety of conservative and special nonconservative parameters both spacially and temporally throughout the drainage. The data input requirements are much more extensive for the Tetra Tech Model. The Tetra Tech Model is being employed on the Yellowstone River and may also be employed on the Poplar River. Both models are still in the developing stages.

4. Five-year Plan

An important element of the Bureau's five-year plan is the reviewing and examination of the monitoring program. This examines the rationale of the various stages of the program in order to place monitoring on a scientific basis that yields a cost-effective program.

As in the past, the Bureau will be involved in performing technical studies (see section titled "Technical Studies and Support" for further information regarding past studies). These studies involve monitoring to determine if water quality damage has occured or could possibly occur as a result of some activities (e.g. mining, agriculture, industrialization).

The Bureau will also continue to review water quality related studies; both those conducted in Montana and those related to specific problems that have or may occur in Montana. This information will be cataloged for referencing by the Bureau and other agencies. A cataloging system such as this has a possibility of being computerized. This would make the information more easily assessible to a larger number of interested parties. This aspect will be investigated within the next five years.

The automated data processing and handling system for Montana water quality data being developed by the Bureau should be in full scale operation within the next five years. This system will receive data from the vaious agencies which collect water quality data in Montana (e.g. USGS, EPA, MBMG, Bureau of Rec., USFS), and make it available for retrieval by different key elements (e.g. sample location, parameter, sample source) in a variety of formats.

Another important element of the monitoring program in the next five years will be the development of biological parameters, and relationships between parameters which will bring biological monitoring in line with feasible funding. Parameters such as biomass and chlorophyll accrual rate will be investigated for their correlation to changes in water quality. A good biological monitoring program that is operationally feasible at a reasonable cost is needed. Information as to the affects on the biological community has been seriously deficient in the past. This has resulted in decision making and management planning which may not represent the optimum maintenance of water quality.

The Bureau intends to become more proficient in the use of water quality models for decision making in water quality management planning in the next five years. Besides providing a method for processing water quality data into information that can be used by planners and managers, modelling provides an insight into what data the monitoring program should provide and what conditions are most critical to maintenance of water quality.

Laboratory analytical capability will continue to be upgraded in the next five years with additional automated equipment and additional computer interfacing providing higher reliability and lower sample costs. A formalized filmlike system of internal and external controls will be utilized in the laboratory and more effort will be devoted to experimental techniques to increase the accuracy and precision of the tests. It is expected that a laboratory quality assurance program will be developed and utilized for private laboratories that are performing self monitoring analyses for permits.

Additional work will be done to insure that field sampling procedures utilize the most currect techniques. Techniques in sampling, preservation, storage, and chain of custody will be examined to insure that reliable results are provided.

Efforts will be made in the next five years to examine instrumentation for continuous instream monitoring of selected water quality parameters such as temperature, pH, and specific conductance. This will allow a continuous record to be developed on certain streams and other water bodies. Similiarly, other monitoring techniques such as remote sensing and automated pollution alarm systems will be examined to determine their cost effectiveness.

5. Proposed Fiscal Year 1978 Program

A. Primary Monitoring Network

The primary monitoring network consists of only those stations that the Bureau will sample (Tables 5 and 6). The total monitoring network includes those stations that will also be sampled by other agencies (e.g. USGS, USFS, MDF&G). Most of the physical and chemical stations will be monitored seasonally and in conjunction with synoptic runs (Table 7). The biological stations will be sampled annually (Table 6).

Special projects which are continuing from previous years are shown in the "Technical Studies and Support" section.

Two projects proposed for FY 1978 are extensions of the waste load allocation done on the Yellowstone River in the vicinity of Billings. One project involves the phenolic concentrations present in the river, and the other is concerned with temperature.

B. Statewide 208 Monitoring Network

The major areas of monitoring under the Statewide 208 program are as follows (Tables 7 and 8):

(1) Upper Clark Fork Basin - heavy metals and nutrients;

(2) Upper Missouri Basin - temperature;

(3) Musselshell Basin - sediments and salinity; and

(4) Boulder Batholith - potential mining impacts.

In addition to these, all the biological stations not within Designated 208 areas will be monitored under the Statewide 208 monitoring network. The Statewide 208 also plans to monitor some biological activity in the area of the ASARCO project. This is intended in part to develop a methodology for development of concise biological parameters that will sufficiently characterize water quality. This will be done on Lake and Stanley Creeks. The Statewide 208 has also contracted with a number of other agencies and private firms to prepare technical studies on various aspects of water quality planning. These subcontracts will involve varying degrees of monitoring.

TABLE 5. WATER QUALITY BUREAU PRIMARY MONITORING NETWORK (CHEMICAL AND PHYSICAL)

BASIN	STREAM SEGMENT	MONITORING FREQUENCY	PROBLEM APPARENT OR POTENTIAL
Flathead	Flathead River near Holt Bridge	Seasonal	Nutrients & Sediment
	Ashley Creek above & below Kalispell STP	Annual	Coliform & Nutrients
	Whitefish River near Kalispell	Seasonal	Coliform & Nutrients
Upper Clark Fork	Clark Fork River above & below Deer Lodge	Annual	Coliform & Nutrients
Upper Missouri	Big Pipestone Creek above & below Whitehall	Annual	Coliform & Nutrients
	Little Indian Creek above & below Sheridan	Annual	Coliform & Nutrients
	Boulder River above & below Boulder	Annual	Coliform & Nutrients
Missouri-Sun-Smith	Prickley Pear Creek above & below Helena STP	Annual	Coliform & Nutrients
	Prickley Pear Creek below ASARCO	Seasonal	Heavy Metals
	Muddy Creek near Vaughn	Seasonal	Nutrients & Sediment
Lower Missouri	Poplar River Drain.	Annual	Dewatering
Upper Yellowstone	Yellowstone River in Billings Area	Seasonal	Phenols & Temperature

TABLE 6. WATER QUALITY BUREAU PRIMARY MONITORING NETWORK (BIOLOGICAL)

Flathead Basin

Whitefish River near Kalispell
Stillwater River near Kalispell

Upper Missouri Basin

East Gallatin River at Thompson Creek

Upper Yellowstone Basin

Clark Fork of the Yellowstone River near Laurel
Yellowstone River at Laurel
Yellowstone River at Billings
Yellowstone River at the Huntley Diversion Dam

Little Missouri Basin

Little Missouri River at Capital
Beaver Creek at Wibaux

TABLE 7. STATEWIDE 208 MONITORING NETWORK
(CHEMICAL AND PHYSICAL)

BASIN	STREAM SEGMENT	MONITORING FREQUENCY	APPARENT OR POTENTIAL PROBLEM
Upper Clark Fork	Silver Bow Creek Opportunity to lower pH Shack	Monthly	Metals, Nutrients & Sediment
Lower Clark Fork	Clark Fork River Harper's Bridge to just below Six-mile Creek	Seasonal	Color, Oxygen, Phenol, Nutrients, & Sediment
Upper Missouri	Beaverhead River near Twin Bridges	Seasonal	Temperature
	Bighole River near Twin Bridges	Seasonal	Temperature
Musselshell	Musselshell River Harlowton to Roundup	Seasonal	Nutrients & Sediment

TABLE 8. STATEWIDE 208 MONITORING NETWORK (BIOLOGICAL)

Kootenai Basin

Lake Creek near Troy *
Stanley Creek near Troy *

St. Mary Basin

Swift Current Creek near Babb

Upper Clark Fork Basin

Silver Bow Creek Opportunity to lower pH shack *
Clark Fork River at Deer Lodge *

Lower Clark Fork Basin

Bitterroot River at Maclay Bridge
Clark Fork River Harper's Bridge to just below Six-mile Creek *

Upper Missouri Basin

Bighole River at Twin Bridges *
Beaverhead River at Twin Bridges *
Ruby River near Twin Bridges
Boulder River near Boulder
Red Rock River above Lima Reservoir
Sheep Creek above Muddy Creek
Muddy Creek at Mouth
Grasshopper Creek near Mouth
West Fork Madison River near Mouth

Missouri-Sun-Smith Basin

Muddy Creek near Vaughn
Prickley Pear Creek above Lake Helena
Prickley Pear Creek below East Helena
Prickley Pear Creek below ASARCO
Sun River above and below Vaughn

TABLE 8. (cont.)

Middle Missouri Basin

Wolf Creek at Denton
Judith River near Utica
Judith River at Mouth
Big Spring Creek near Lewistown

Musselshell Basin

Musselshell at Delphia
Musselshell at Bandy
Musselshell at Mosby

Lower Missouri Basin

Redwater at Circle
Redwater at Mouth

Marias Basin

Pondera Creek near Mouth
Marias River near Loma
Teton River near Loma

Milk Basin

Big Sandy Creek near Mouth
Lodge Creek near Chinook
Milk River at Nashua

Upper Yellowstone Basin

Shields River near Mouth
Yellowstone River near Livingston

* These stations will be monitored seasonally rather than annually.

C. Designated 208 Monitoring Network

The four designated 208 planning agencies will be completing their programs in fiscal year 1978. The proposed actions resulting from these planning agencies may require some monitoring. Some of this monitoring may be directed to the Bureau. At the present time though, it is not known to what extent this will occur.

D. Compliance Monitoring

Compliance monitoring of wastewater discharges will be the same as in previous years, although intensive surveys to determine the adequacy of present facilities are scheduled for the communities of Whitehall, Boulder, Sheridan, and Deer Lodge in fiscal year 1978.

E. Unscheduled Monitoring

Some monitoring does occur during the year in response to complaints and new developments, but it is impossible to predict exactly where these will occur and how much monitoring they will require. It is expected that the amount of this type of monitoring will be similiar to preceding years. These conditions are monitored as time and resources permit.

F. Quality Assurance

The previously developed internal and external quality assurance program will continue in fiscal year 1978. In addition, attempts to develop a quality assurance program for private laboratories which will perform self-monitoring analyses and analyses done in connection with contracted studies will be pursued.

G. Data Processing and Handling

The first operational system of the automated data processing and handling system for Montana water quality data is proposed for completion in fiscal year 1978. During this year, it is estimated that about 75% of the available water qulaity data will be in the system.

H. Estimates of Expenditures for Sampling, Analysis and Data Processing

For fiscal year 1978, the following estimates are projected for the monitoring program:

Compliance Monitoring	$ 27,000
208 Monitoring	30,000
Scheduled Bureau Monitoring	33,000
Unschedule Bureau Monitoring	15,000
Drinking Water	30,000
Total	$ 135,000

Of this total cost, percentages are estimated for the following categories:

Field Sampling	15%
Laboratory Analysis	57%
Data Processing & Handling	4%
Quality Assurance	20%
Program Management	4%

WATER QUALITY MANAGEMENT PLANNING

1. State Legislation

Section 69-4809.1 states in part:

(1) The department shall:

(d) Collect and furnish information relating to the prevention and control of water pollution;

(h) advise, consult, and cooperate with other states, other state and federal agencies, affected groups, political subdivisions, and industries in the formulation of a comprehensive plan to prevent and control pollution.

2. Review of Past Program

(a) Basin Planning

States were required under Federal Regulation 18CFR601.32 and .33 dated July 2, 1969 to provide water quality management plans for river basins, metropolitan, and regional areas. In 1971, planning was initiated in areas where construction grants were contempleted. Without an interim basin, regional, metropolitan, or project plan, Environmental Protection Agency construction grants could not be obtained. The Water Pollution Control Act Amendments of 1972 required river basin plans as outlined by Section 303(e) of the act to be completed by July 1, 1976 (deadline extensions on a case-by-case basis could be made by EPA beyond the July 1, 1976 deadline). The basin plans outline the needs and priorities of the particular river basin as it pertains to water pollution control. The last of these plans was completed in 1977.

(b) 208 Planning

Regulation 40 CFR Part 131 pursuant to Section 208 of P.L. 92-500 outlined detailed planning requirements in areas designated by the governors of states having complex waste-

water treatment problems or where substantial problems could occur due to a high rate of population-industrial development. Four areas and their corresponding district planning organizations were desingated by Governor Judge in fiscal year 1975 (refer to Figure 2, page 59). These districts receive 100% federal funding from EPA for water quality management planning in their district. These plans include assessments of local water quality, land use-water quality interrelationships, alternatives for correction of water quality problems and development of an implementable plan for the prevention, abatement and control of water quality degradation. Public participation and coordination with agencies and the public are major outputs of the planning process.

Designated areawide planning organization districts, funding allocations and plan completion dates are shown below.

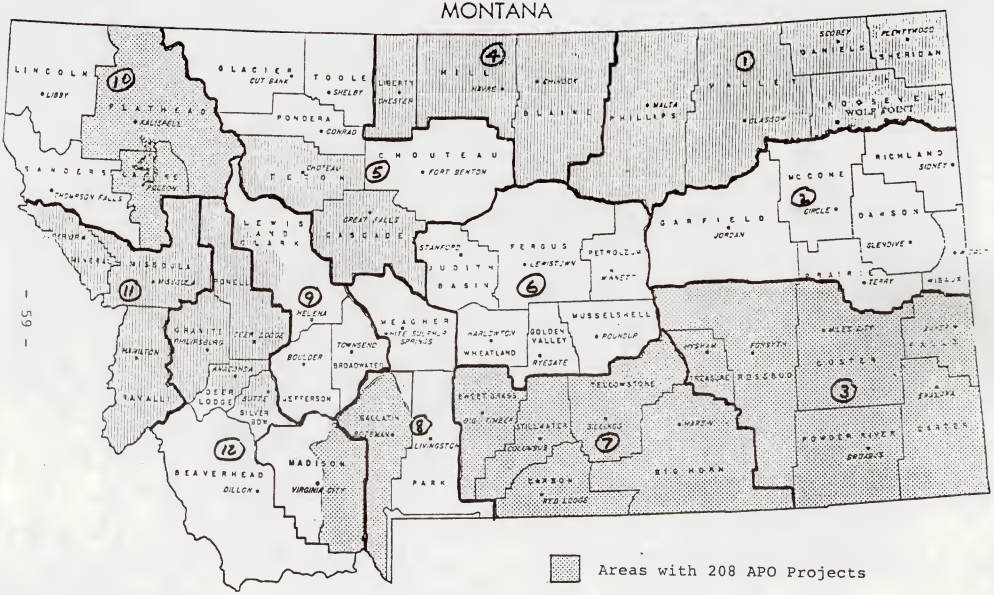
Areawide Planning Orgainzation (APO)	Funding	Completion Date
Flathead Drainage	$495,000	Sept. 30, 1977
Yellowstone-Tongue	540,000	Jan. 15, 1978
Middle-Yellowstone	735,000	Nov. 30, 1977
Blue Ribbons of Big Sky Country	475,000	Mar. 15, 1978

In cooperation with the Department of Community Affairs the Water Quality Bureau has worked with three additional areas that have the potential for designation if additional federal funds become available for Section 208 planning. These areas are also shown on Figure 2.

It was apparently EPA's intent that the detailed planning in the non-designated areas under Section 208 would amount to a minor upgrading of the Section 303(e) water pollution control management plans. A federal court decision rendered during 1975 directed EPA to issue regulations which would require states to undertake detailed planning for areas outside of designated areas. The revised regulations (40 CFR, Parts 130 and 131) issued on November 28, 1975 establish a new procedure for the state continuing planning process and preparation of water quality management plans (both in designated areas and in the remainder of the state). The revisions to these regulations reflect the increasing emphasis on management of nonpoint sources

FIGURE

208 Status Map - March 1976



No. 1052 — County Outline Map

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and serve to clarify the state planning responsibilities under Section 208, as well as Section 303 of the act. To date, the Water Quality Bureau has written a new Continuous Planning Process (April 9, 1976) and has been awarded a grant for Statewide Section 208 (P.L. 92-500) Water Quality Management Planning (June 8, 1976). The Final Work Plan outlining the methodology for Statewide 208 planning was approved November 23, 1976.

3. Five Year Strategy

The major objectives will be the completion of the statewide and areawide plans by November 1, 1978 and their subsequent implementation. Plans will consist of the following elements:

1) Planning boundaries
2) Water quality assessment and segment classifications
3) Inventories and projections
4) Nonpoint source assessment
5) Water quality standards
6) Total maximum daily loads
7) Point source load allocations
8) Municipal waste treatment system needs
9) Industrial waste treatment system needs
10) Nonpoint source control needs
11) Residual waste control needs, land disposal needs
12) Urban and industrial stormwater needs
13) Target abatement dates
14) Regulatory programs
15) Management agencies
16) Environmental, social, economic impact

A continuing facet of implementation will be an annual review of control programs for effectiveness and an updating of problem priority lists. Periodic review, with the revision of inefffective or inadequate programs and the implementation of additional control programs, will facilitate achievement of 1983/1985 goals. Continuous coordination with related planning projects will be maintained to insure compatibility of water quality objectives with other planning goals.

4. Proposed Fiscal Year 1978 Program Plan

(a) Areawide Plans

All of the original arewide plans will be completed during the fiscal year. The bureau is responsible for coordinating interagency review and consolidating review comments

and recommendations that form the basis of the Governor's certification and adoption. The certification includes the statement that the state has adopted the plans as the official water quality management plans for the designated planning areas and that the plans will be implemented. Certain elements of the plans can be certified, conditionally certified or not certified. The bureau will give high priority to reviewing the plans. It will also encourage the continuation of the areawide staffs at a reduced level and will work towards obtaining additional federal funding to partially offset the costs of continuation.

(b) Statewide 208 Plan

The program will consist of three phases: completion of data compilation and evaluation for the purpose of identifying the nature and extent of water quality problems; prioritization of problems to be corrected and determination of control needs based on cost-effectiveness and expected degree of environmental improvement; preparation and federal, state, and local review of alternative and final plans.

Though the major emphasis will be on nonpoint pollution sources, critical point source problems will also be the object of control programs. Monitoring and sampling will be limited to significant problem areas where additional data is needed to reasonably assess the problems and to determine the effectiveness of implemented control programs.

Contracts have been or will be initiated with other agencies and organizations for work to be done outside the Water Quality Bureau. The Departments of Fish and Game and Community Affairs and the Montana Association of Conservation Districts have been contracted to conduct a fisheries inventory, develop socio-economic projections, and conduct an agricultural-nonpoint source assessment, respectively. A cooperative land use inventory, undertaken by several state and federal agencies and coordinated by the Department of Community Affairs, has begun.

Consultants are currently being selected to conduct other nonpoint source assessments in the areas of groundwater, mining, silviculture, and construction. The remainder of the tasks outlined in the Final Work Plan will be accomplished by the Water Quality Bureau.

The Water Quality Bureau is being assisted in the planning by the Statewide 208 Advisory System established for the specific purpose of providing the project technical and citizen guidance. The System's three groups, Advisory Council, Citizen Information Group, and Technical Information Group, will facilitate coordination with other planning programs having a possible impact on water quality. The Advisory System also provides a ready means of continuous, representative public participation in the planning project.

In addition to public input through the Advisory System, a structured public participation program will actively seek and utilize public opinion throughout the planning period and provide information and progress reports to all interested. The newsletter provides monthly information. A recently completed taped slide series describes Montana's need for 208 planning and emphasizes the necessity of continuous public involvement. A series of statewide workshops, featuring the why and how of 208 planning, are scheduled to begin in June. The second of the series will be conducted in late 1977 or early 1978 and the third of the series will be in the form of public meetings for the review of alternative and final plans.

A combination cinematic-technical approach to one of our high priority problems, dewatering, will begin shortly. A film, focusing on the nationally and regionally known Big Hole River, will inform the public of the water quality tradeoffs associated with irrigation. The movie will document the effects of irrigation drawdown and emphasize remedial measures. Concurrent physical/chemical/biological monitoring on the Big Hole River will provide a technical data support base for the film. And finally, Water Quality Bureau personnel attend numerous citizen interest group meetings to discuss 208 planning and solicit public opinion.

Major objectives to be met during FY 1978 will be to achieve the implementation milestones as outlined in the Final Work Plan, insure on-time completion of the areawide and statewide plans, complete revision of water quality standards, and develop a non-degradation policy.

More efficient plan development and effective implementation could be obtained by more frequent and active EPA involvement.

TECHNICAL STUDIES AND SUPPORT

1. State Legislation

Section 69-4809.1(1)(d) and (e) under Duties of Department states:

(1) The department shall:

(d) Collect and furnish information relating to the prevention and control of water pollution;

(e) Conduct or encourage necessary research and demonstration concerning water pollution;

2. Past Program

The bureau's technical studies and support capabilities have largely been funded through special grants or contractual agreements with other agencies. Prior to 1973, few studies were performed. A summary of the principal studies involved follows:

(a) "A Study of the Water Quality of Twelve Lakes in the Flathead River Drainage Basin" subcontracted to Lawrence C. Sonstelie of Flathead Valley Community College through a grant made by EPA to the Department of Health and Environmental Sciences. This study was designed to determine the nutrient status of 12 representative lakes in the Kalispell area and the nutrient inputs they can tolerate without damage. The 12 lakes studied were Ashley, Blaine, Blanchard, Echo, Five, Foy, Little Bitterroot, Lower Stillwater, Mary Ronan, Rogers, Swan, and Whitefish. This study was completed in 1975.

(b) "Distribution and Biotic Effects of Nutrients in Flathead Lake, Montana" subcontracted to the University of Montana Biological Station through a grant made by EPA to the Department of Health and Environmental Sciences. Study was undertaken to describe seasonal dynamics of various physical and chemical parameters involved in plankton community metabolism, to relate findings to nutrient loading

trends previously reported, and to determine if nutrient removal was required by upstream communities at this time to prevent eutrophication of Flathead Lake. Study completed in 1975.

(c) "Gallatin Basin Waste Allocation Study", subcontracted to Montana State University, Department of Microbiology. This grant was made by EPA to the Department of Health and Environmental Sciences to primarily determine the degree of treatment needed by the city of Bozeman to meet water quality standards. Study completed in 1975.

(d) Saline Seep Contract with Department of State Lands to investigate the impact of saline seeps on surface waters, public water supplies and groundwater. This investigation began in fiscal year 1975 and was continued with funding from the Old West Commission. The State Bureau of Mines and Geology was also involved with this study which was completed in fiscal year 1977.

(e) Coal Developments - Investigation of the impact of energy development on water quality in the Yellowstone River. This project was funded by the Old West Commission and completed in fiscal year 1977.

(f) Yellowstone River, Billings - This investigation, funded by EPA, examined waste loading in the Yellowstone River from Laurel to Huntley. The objective was to determine stream conditions and allocate waste loads in the stream segment. The study is being continued with regular program funding.

(g) Logan Creek Watershed - This cooperative investigation was initiated in fiscal year 1975 and is funded by the U. S. Forest Service. The objective is to determine the impact of logging and road building on water quality in the Logan Creek watershed and is currently in progress.

(h) Tongue River - This program was initiated in the latter part of fiscal year 1975 and is funded by EPA. The objective is to determine the effects of coal developments on water quality in the Tongue River and Tongue River Reservoir. Project completed in fiscal year 1977.

(i) Poplar River - This program, beginning in late fiscal year 1975, is funded by EPA. The objective was to predict the effects of a Canadian coal development on the Poplar River drainage. The initial phase of the project was completed in fiscal year 1977.

Additional federal funding has been obtained for modeling studies to predict water quality with various water flows. Hopefully, these studies will assist the USA in obtaining adequate flows from Canada to maintain good water quality in Montana.

(j) Colstrip - Funded partially by the Department of Natural Resources and Conservation to predict effects of Colstrip Nos. 3 and 4 on water quality and to determine if water quality standards would be met by its operation. Investigation began in 1974 and completed in 1975.

(k) Statewide Sediment Control Project - This is a cooperative project between the bureau, Soil Conservation Districts of the Department of Natural Resources and Conservation, and the Lewis and Clark County Soil Conservation District. Project is funded through a grant from EPA and was started in 1975 with completion scheduled for fiscal year 1978. Further detail of this project is given in the Nonpoint Source Section of this program plan.

(l) Hughesville - This is an acid mine drainage study in which the bureau first determined the principal sources and chemical constituents of acid mine drainage and their effects on the Dry Fork of Belt Creek and principal tributaries. The second phase of the project is an investigation of changes on acid mine drainage, volume and chemical constituents due to physical changes made at the project site. Project is funded by EPA by grant to the Department of Natural Resources and Conservation. The bureau is subcontracting the water quality investigations through contract with Department of Natural Resources and Conservation. This phase of the project is expected to be completed during fiscal year 1978.

(m) Hebgen Lake - This project was funded by the U. S. Forest Service and conducted by the bureau to obtain baseline data for predicting impacts of developments on Hebgen Lake. The study on Hebgen Lake was completed in 1976.

(n) Irrigation Effects on Water Quality - In this project the bureau water quality laboratory personnel analyzed water samples from irrigation projects which were being sampled by Bureau of Reclamation personnel. The analytical work performed by the bureau was funded by the Bureau of Reclamation. The project was started in 1975 and was completed in 1976.

(o) ASARCO near Troy - This project is to predict the effects on water quality by a proposed copper mine and concentrator located near Troy. It was started in early 1977 and should be completed in late 1977. Funding is being obtained through the Department of State Lands who has received fees for preparation of the EIS from ASARCO.

(p) Colstrip Pond Project - This project is to evaluate the impacts and characteristics of wastewaters from a coal-fired power plant. The principal effort will be devoted to evaluating the effectiveness of pond liners and soils in controlling seepage to the groundwater. The study was started in fiscal year 1977 and should be completed in fiscal year 1978.

(q) Groundwater Studies - These are further covered under the Groundwater Section.

Support for these studies was provided by bureau personnel working in the chemical laboratory and by personnel in the bacteriological laboratory.

3. Five Year Strategy

Technical studies for which contracts have already been signed and are not yet completed by the end of fiscal year 1977 are expected to continue unto completion. Additional contracts beyond fiscal year 1977 are expected on the U. S. Forest Service Logan Creek project mentioned above or similar projects.

The FY 77 plan provides by priority, where further study is needed outside of 208 designated areawide districts. The 208 areawide planning organizations are doing the principal technical studies in their areas. Statewide 208 grant funding is expected to be utilized for a portion of the higher priority studies needed outside of the designated areas during fiscal year 1978.

If substantial development occurs as predicted in the energy related field and mining, the need for technical studies will greatly increase and so will the need for additional personnel doing these studies. These are the unknowns facing the bureau and other agencies. The actual studies needed cannot be accurately predicted at this time.

4. Proposed Fiscal Year 1978 Program Plan

The following studies are planned to be continued in fiscal year 1978:

(a) Logan Creek Watershed

(b) Statewide Sediment Control Project

(c) Hughesville

(d) Poplar River

(e) Billings waste load allocation

(f) High priority areas in nondesignated 208 area

Further identification of these areas is provided in the "Monitoring" Section.

1. State Legislation

Section 69-4802 (9) states:

(9) "State waters" means any body of water, irrigation system, or drainage water either surface or underground; however, this subsection does not apply to irrigation waters where the waters are used up within the irrigation system and the waters are not returned to any state waters.

Section 69-4804 states:

This chapter applies to drainage or seepage from all sources including that from artificial, privately owned ponds or lagoons if such drainage or seepage may reach other state waters in a condition which may pollute the other state waters.

Section 69-4904 (4) and (5) state:

The department of health and environmental sciences shall:

(4) Advise persons as to the best method of purifying and disposing of their drainage, sewage, or waste water with reference to the existing and future needs of other persons and to prevent pollution;

(5) Consult with persons engaged in or intending to engage in manufacturing or other business whose drainage, or sewage may tend to pollute waters as to the best method of preventing pollution.

Section 69-4905 (1) states:

A person shall not:

(1) Discharge polluting matter of any kind that will pollute the quality of state waters used by a person for domestic use or as a source of supply by a city, town, public institution, water or ice company.

2. Review of Past Program

The bureau investigates potential and existing groundwater pollution problems. In recent years, detailed groundwater investigations were made for:

(a) Oil near Farmers Union Central Exchange Refinery in Laurel.

(b) Gasoline in well water in a housing development adjacent to Bozeman.

(c) Iron in well water for a proposed subdivision near Butte.

(d) Nitrate in well water in the Helena Valley, Colorado Gulch near Helena, and in Lincoln (cooperative studies with the U. S. Geological Survey).

(e) Quality of water in wells near a kraft paper mill near Missoula.

(f) Changes in salinity of municipal wells in areas prone to saline seep.

(g) Effect on groundwater from the Great Western Sugar Company operation at Billings.

(h) Effect on groundwater from wastewater ponds at Colstrip.

(i) Gasoline in well water near Missoula.

(j) Chemicals in groundwater in City of Livingston landfill.

Through an EPA grant received in fiscal year 1976, groundwater regulations were drafted.

3. Five Year Strategy

The bureau will continue to investigate potential and existing groundwater pollution problems. Regulations will be developed and implemented. These regulations will meet the requirements and intent of the state water pollution control and domestic water supply acts. Federal regulations under the "Safe Drinking Water Act" (PL 93-523) should be adopted soon by EPA. The bureau is holding up on further work on its regulations until the Federal regulations are promulgated. The state can make application for administration of the EPA program which will be applicable principally to deep well injections and solution mining. After looking at the first draft of the

EPA regulations, the amount of pollution control benefits appeared to be short in relation to the manpower and spending to conduct the program. Final determination of whether to make application will depend on the content of the final EPA regulations and the advice of others in higher administrative positions in state government and the Board of Health and Environmental Sciences. The bureau believes the principal need at this time is to control seepage from ponds that would cause pollution of groundwaters.

4. Proposed Fiscal Year 1978 Program Plan

The scheduling for development of groundwater regulations is provided in the Water Quality Standards Section of this plan. Water quality investigations will continue in some of the saline seep areas, near the Hoerner-Waldorf pulp and paper mill, and at Colstrip. Where new developments may affect groundwater quality, monitoring wells will be recommended. Complaints of groundwater pollution will be investigated as time and resources permit.

PUBLIC PARTICIPATION

1. State Legislation

Section 69-4809.1 states in part:

(1) The department shall:

(d) collect and furnish information relating to the prevention and control of water pollution.

2. Past Program

For the past fiscal year, an effort was made to develop several informational/educational aids, establish an ongoing series of workshops for the 208 planning program, and give talks to service clubs, agricultural groups and other organizations.

A booklet entitled, Montana Water Pollution Control Program, describing various bureau program elements and important points of the Montana Water Pollution Control Law has been prepared, printed and distributed to numerous organizations and individuals. Five thousand of these booklets were printed and are available upon request.

A brochure entitled Section 208 Water Quality Management Planning, describing the 208 planning process has been prepared and distributed to numerous organizations and individuals. Three thousand of these brochures were printed and are available on request.

Two slide series have been prepared. Both are dual-projector shows utilizing a dissolve unit. One series on Prickly Pear Creek, entitled Prickly Pear Creek, Going, Going, Gone, describes water quality problems, both historical and present, affecting the water uses of this creek. The second slide series, (no title), describes Montana's overall water quality problems and the 208 planning approach to solving the problems. Both series are 15 minutes long and will be shown at service clubs, agricultural meetings or other civic organization meetings upon request.

A 16 mm film, entitled Wellspring, produced by Virginia Burns of the Flathead Drainage 208 APO along with technical and financial assistance of the bureau has been prepared to describe water quality and 208 planning. The film is used at public meetings and has been aired on T.V. 5, Great Falls.

Workshops on the 208 planning program have been planned for thirteen areas of Montana for FY 77 and FY 78. At each location a series of two or three workshops will be held over the duration of the 208 program. Local committees have been or are being formed to develop the workshops to maximize public input into the planning effort. Locations scheduled include; Missoula, Hamilton, Dillon, Butte, Eureka, Libby, Shelby, Great Falls, Malta, Plentywood, Glendive, Lewistown and possibly Helena.

Presentations were given to numerous civic groups, conservation districts and service clubs over the past year.

An article was written, entitled Agriculture and It's Role in 208 Planning. This article received wide distribution by appearing in the Montana Farmer-Stockman Magazine, Montana Stockgrowers Magazine, Montana-Wyoming News, and the KMON Country News.

3. Five Year Strategy

A major effort will be made to encourage both public involvement in overall water quality management planning and cooperative participation by federal, state and local governments. Local citizen groups and special interest groups will be an important focal point. Information on proposed laws and regulations and proposed changes which could affect citizen groups and agencies will be publicized and meetings held to seek citizen review and comment. Special attention will be given to informing the public and appropriate governmental agencies of progress made throughout the statewide 208 planning process, the local 208 planning processes and the statewide sediment control project to insure consistent planning and maximize public input into development of best management practices, related nonpoint source controls, and other water quality management needs.

A basic education program to inform the public of federal and state water pollution control programs, concepts and philosophy of water pollution and its control will be attempted to be incorporated into existing workshops, training courses, seminars, organizational meetings, etc., conducted by government agencies, associations, and

local groups. Individual "unit programs" would be developed on citizen involvement in water quality management planning, forestry and water quality, irrigation and water quality, farming and water quality, grazing and water quality, rural development and water quality, etc., using visual aids, current studies and regulations to develop information-education programs.

Radio, TV, newspapers, magazines, newsletters and public notices will be utilized to inform the public and encourage public participation in planning decisions and general agency positions, policies and programs.

4. Proposed Fiscal Year 1978 Strategy

Priority will be given to the 208 workshops, and encouraging local committees to put on at least two workshops in their area. Success of these workshops will be dependent upon local involvement in the planning and execution of the workshops.

At least three more major 208 related news articles for magazine coverage are anticipated and, in as much as possible, talks and slide presentations will be presented on the 208 program to encourage public participation and public interest in attending the 208 workshops.

An annual report of Water Quality Bureau activities will be prepared this year for general public distribution. This report will be available in February or March, 1978.

SUMMARY OF BUDGET AND MANPOWER RESOURCES AND OUTPUT COMMITMENTS

The manpower and budget summary for fiscal year 1978 presented in Table 9 consists of personnel services, contractual services, supplies and materials, communications, travel, rent, utilities, equipment, repairs, and indirect costs which are associated with federal grants. The bureau maintains three offices - the main office in Helena and branch offices in Kalispell and Billings. The Kalispell and Billings offices are shared with other division personnel. Two persons are located at Kalispell and five at Billings for water quality work. Field laboratories are also maintined at Kalispell and Billings, mainly for analytical work for samples which must be done in a short-time period and cannot be shipped to the main laboratory at Helena. About five man-years/year are associated with the laboratory work on water pollution control.

The bureau is also responsible for a regulatory program for public water supplies. A separate subdivision bureau was established during fiscal year 1976. Subdivision work was formerly performed by the Water Quality Bureau. Even though the greater portion of their work relates to water pollution control, their manpower and budget spent in this activity is not shown here. Personnel time (about one man-year/year) provided by the Legal Division to the bureau activities is not shown. The Department of Fish and Game has an aquatic biologist working with the Department and his time is not shown. E.P.A. also provides an engineer to coordinate the permit program. An additional engineer to work with the bureau on the construction grant program would be highly desirable.

The Water and Wastewater Operators' Certification program involves operators in both the water supply and water pollution control fields. The program is administered by the Water Quality Bureau.

The budget also shows funds which the bureau obtains from the 208 designated areas. These funds are utilized for services performed by contract with engineers to work with the planning districts on specific outputs and coordinate the state and areawide programs. This contractural program will terminate early in FY 78.

The Statewide 208 and Safe Drinking Water Programs require the state to provide 25% of the funds. About $70,000 is required of state matching funds for the regular water pollution control program (106 program). The bureau has progressively become more dependent on federal funding with state funding remaining about the same for the last few years.

Budgeting has become more complex with the changing of the federal fiscal year to October 1 through September 30, while the state budget period remains as July 1 to June 30. The federal budget period is presented in Table 9; however, the total budgets for the two (fiscal year) time periods will be fairly similiar.

The following sources of funding are anticipated by the Water Quality Bureau for programs which they are administering:

General Funds		$233,000
Operator Certification Program		12,000
E.P.A. Water Pollution Control Program		381,000
E.P.A. Statewide 208 Grant		245,000
E.P.A. Public Water Supply Grant		205,000
Contractural Studies:		
ASARCO-Troy (State)	$ 4,000	
Flathead National Forest	10,000	
Poplar River Modeling - E.P.A.	12,000	
Hughesville Study - E.P.A.	5,000	
Sediment Study - E.P.A.	15,000	
Colstrip Study - E.P.A.	2,000	
Areawide 208	8,000	
Contract Total		56,000
Total		$1,132,000

It will be noted in Table 9, that a substantial amount of funding is shown under the monitoring. A large amount of this funding and manpower could just as well be shown under the heading of water quality management planning. Bureau sampling and analyses as shown on page 56 of the monitoring section is only a small amount of the monitoring or investigative type of effort. Assessment of these data and data collected by others to determine where problems do or will exist and their ease of correction must be done.

TABLE 9. FISCAL YEAR 1978 BUDGET AND MANPOWER SUMMARY.

PROGRAM ELEMENT	1. FY'78 CONTROL AGENCY GRANT AMOUNT (EQ Portion)	2. 208 GRANT FUNDS	3. NON-FEDERAL STATE FUNDS	4. TOTAL BUDGET (Includes all sources of funding)	5. MAN-YEARS
Municipal Facilities Construction	63,000	16,000	8,000	87,000	3.9
Point Source Permits	106,000	---	4,000	110,000	4.7
Nonpoint Source Management Activities (Implementation)	8,000	---	5,000	13,000	0.6
Water Quality Management Planning (to include water quality standards)	4,000	105,000	62,000	171,000	6.05
Monitoring (to include ambient and effluent monitoring)	46,000	84,000	56,000	186,000	7.8 4/
Enforcement (to include compliance assurance activities)	54,000	---	12,000	66,000	2.5
Training, Operations & Maintenance	33,000	---	7,000	40,000	1.9
Public Participation	5,000	20,000	20,000	45,000	1.5
Administration	62,000	20,000	3,000	85,000	0.5
Other			68,000 5/ 4,000 6/	273,000 5/ 56,000 6/	9.05 5/ 2.6 6/
Total	381,000	245,000	249,000	1,132,000 7/	41.1

1/ Funds to be derived from changes for the processing of construction grants $ -0-.
2/ Funds to be derived from retention of a T of State's total Title II grants $ -0-.
3/ Funds to be derived from changes for the overview of areawide 208 WQMP $ -0-.
4/ Includes data compilation, evaluation, assessment, sampling and analyses.
5/ Public drinking water program - utilizes $205,00 Federal funding.
6/ Contractural Studies by Department for other agencies.
7/ Includes $68,000 indirect from 106 and 208 programs.

APPENDIX

MONTANA STATE DEPARTMENT OF HEALTH
AND ENVIRONMENTAL SCIENCES

PRIORITY SYSTEM FOR
EPA CONSTRUCTION GRANTS

I. The following priority evaluation system is established by the State Department of Health and Environmental Sciences for the allocation of federal grants to municipalities for sewage treatment works construction. This system is based on:

1. Severity of population problem
2. Population affected
3. Need for preservation of pure waters
4. National priorities

The state's construction needs list and ranking of projects will be submitted to EPA by June 30 of each year. From this list, the highest priority projects for which there is money available will receive a notice of project priority. Before receiving an actual priority certification, scheduling for the project must meet department approval.

II. Projects shall be rated as follows:

1. Stream segment designation*

a. (i) Water quality limited due to municipal wastewater discharge or a combination of municipal and industrial wastewater discharges.	8
(ii) Water quality limited due to a combination of municipal, industrial and nonpoint discharges which create or have the potential of creating a lake eutrophication problem.	
b. Effluent limited.	6
c. Water quality limited due to nonpoint discharges in combination with municipal and/or industrial discharges not covered by a. (ii) above.	4
d. Water quality limited due to nonpoint sources or abandoned acid mine discharges.	2

2. Water-use classification of stream receiving discharge:

a. $B\text{-}D_1$ or higher	6
b. $B\text{-}D_2$ or $C\text{-}D_1$	4
c. $B\text{-}D_3$ or lower	2

3. Population served by project:

a. 10,000 or greater	3
b. 1,000 to 10,000	2
c. Less than 1,000	1

4. Scope of the project in abating pollution:

a. Projects previously issued abatement orders by the Department's executive officer 40

b. Construction to achieve compliance with requirements of the Montana Pollutant Discharge Elimination System permit program including, where applicable, interceptor sewers, outfall sewers, pumping stations and associated appurtenances related to the project. Priority points will be awarded in one of the following categories.

1. i) Improved treatment or new treatment to replace existing facilities that are hydraulically and/or organically overloaded such that, to the potential detriment of the receiving stream, inadequate treatment is accomplished or potential health hazards or nuisances result;

ii) new treatment facilities to serve existing untreated discharges, where treatment facilities are cost-effective solution to the problem;

iii) Cost-effective infiltration/inflow reduction 30

2. Improved treatment or new treatment to replace existing facilities that are not capable of meeting effluent limitations on a year-round basis, but achieve a level of treatment consistent with the requirements of the receiving stream. Included in this category are conventional lagoon systems whose discharge normally causes no violation of receiving stream water quality standards or any health and nuisance problems. 25

3. Elimination of raw sewage bypasses as required by the MPDES permit system 25

c. Elimination of individual disposal systems that presently create localized public health problems or hazards. Eligible costs would include the treatment works, with collection system cost eligibility to be determined by the latest federal policy. Points will be awarded in the following categories:

1. Soil and/or groundwater conditions result in adequately documented widespread and year-round hazards, such as surfacing sewage, well contamination and inadequate disposal of wastewater 30

2. Localized and/or seasonal problems resulting from inadequate individual disposal systems 15

d. New or expanded sewerage systems to relieve existing systems or increase existing service area, with eligibility to be determined by the latest federal policy. 15

e. Separation of storm and sanitary sewers to prevent bypassing 10

5. Phase construction:

a. Grant previously awarded on prior phase of project and new grant needed for next phase to keep project on schedule. 30

III. Where more than one project has the same number of priority points, further rating of the projects will be based on population equivalent served by the project.

IV. Projects which are certified by the state for federal grant participation but do not receive a grant agreement prior to the end of the fiscal year will receive an additional 50 points. Such points will be applied to their total point value for the following fiscal year.

V. Projects which have fulfilled the requirements of a "Step 1" grant and have an approved facility plan will receive an additional 10 points at the time of a scheduled priority review. Priority reviews will be held at least annually with more frequent reviews contingent upon the availability of unobligated funds.

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*Water quality limited means that to protect the streams with this designation, treatment greater than the general minimum treatment levels established for wastewater are needed to meet stream water quality criteria.

Effluent limited means that the general minimum treatment levels established for wastewaters are ample to meet stream water quality criteria.

The general minimum treatment level for domestic sewage is secondary treatment. For new sources of wastewater, the state's anti-degradation statement is applicable.